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ABSTRACT

Presented is the second of two volumes on deafness which contains 12 papers and a review of programs or grants sponsored by the federal government and other groups. Larry Stewart identifies the deaf in "A Truly Silent Minority". In the "Seven-Faces of Deafness", G. Loyd tells what deafness means to seven people. E. Mindel maintains that parents can raise their deaf children to be "Just Like 'Real' People". The "Diagnostic Crisis and its Participants" is discussed by Hilde Schlesinger. J. Davis recounts "Frustrations of Being President of a State Association for the Deaf". "Innovation Where it Counts Most" is seen in some educational programs described by T. Mayes. B. Williams reviews "National Trends in the Vocational Rehabilitation of the Hearing Impaired". "A Dream that Came True" for P. Peterson is said to constitute the National Technical Institute for the Deaf. Additionally focused on in the area of education are "Adult Education for the Deaf", by C. Boggs; "Television for Deaf Audiences", by J. Schein; and "Postsecondary Programs for Deaf Students (1972)" by J. DeNio. "Psychiatry for Deaf Persons" is discussed by J. Rainer. Tabularly and textually reviewed are research and demonstration projects sponsored by the following divisions of the Department of Health, Education, and Welfare: Social and Rehabilitation Service; Bureau of Education for the Handicapped (also the Media Services and Captioned Films Branch), and the Maternal and Child Health Service of the Health Services and Mental Health Administration of the Office of Education. Listed are grants offered by the National Institute of Neurological Diseases and Stroke of the Public Health service. Grant activities by such sponsors as the Deafness Research Foundation are noted. (MC)

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EDUCATION

DEAFNESS

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Volume II

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Professional Rehabilitation Workers
with the Adult Deaf, Inc.

1972

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DEAFNESS

Contributed Papers and Reports of
Research and Professional Training
Programs on Deafness

Arthur G. Norris, Editor
Glenn T. Lloyd, Ed. D., Project Director

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Volume II 1972

The first volume of DEAFNESS was issued March 1969 as Monograph Number 1 of the Journal of Rehabilitation of the Deaf.

Professional Rehabilitation Workers with the Adult Deaf, Inc.,
814 Thayer Avenue, Silver Spring, Md. 20910

PREFACE

The old vaudeville cliche, "It's a hard act to follow," seems appropriate here. The first edition of *DEAFNESS* (1969) had such an impact that it is surprising that we have had to wait until 1972 to prepare the second edition. However, it may be that the present format for *DEAFNESS* is a logical development – one that simply required three years to mature. Certainly, the persistence of the idea to present fruition appears to indicate its worth. Meritorious desires have a habit of being satisfied.

The present edition of *DEAFNESS* includes most, if not all, of the features of the first edition and, in addition, contains contributed material selected for its pertinence to the problems of deafness. Our material begins with what may be a classic delineation of the deaf person *(A Truly Silent Minority);* discusses early diagnostic difficulties; treats the education and maturation of the deaf child; and finally, deals with his adult achievements and problems.

The latter portion of this volume presents, mainly in tabular format, data on the many programs and projects initiated in the area of deafness. Most of the data relate to government-supported programs, but some privately sponsored programs and some publicly-supported programs outside of the Department of Health, Education, and Welfare have been included. Originally, it was planned that the data for this edition would only span the 1968 and 1969 fiscal years. However, it was found that in many instances we were in possession of current data; to delay publication appeared to be a disservice to the professions interested in on-going programs for the deaf populace. The decision was made to bring as much of our reporting as possible up to date. In this we have been only partially successful; another year will see complete currency without repetition or accumulation of data.

In bringing together under one cover comprehensive information concerning research and training activities related to deafness, however supported, it is hoped that a research tool will be created – one that will be of value to all who work in any way with deaf people, and one that will, in the hands of these professionals, be of direct benefit to the "Silent Minority."

Most research and training in the field of deafness are supported in part, as is this volume, by the Department of Health, Education, and Welfare. Without this support the advances in the treatment of deafness and its implications would be minimal. Further, without the generous cooperation of many persons in the department this volume would not have been possible.

There are many aspects of deafness, presently ill-defined, that will command the attention of professionals in the years to come. If, through this work, we may have a part in identifying these areas of concern we will have been amply rewarded.

FOREWORD

The Rehabilitation Services Administration is proud to have had a part in the publication of this year's *DEAFNESS* Annual – an expansion and outgrowth of the first edition published in 1969. The current edition is more than a comprehensive reference on research and training in the area of deafness. Discussions of developments of common interest to workers in vocational rehabilitation, program initiators, researchers, students and the lay person have been included.

The major work was performed under contract by the Professional Rehabilitation Workers with the Adult Deaf, Inc., but completion would not have been possible without the generous cooperation of many agencies in the Department of Health, Education, and Welfare. We appreciate their interest in helping to give substance to the priorities established for work with the handicapped in the 70's.

We appreciate, also, the specific guidance provided by the Office of Deafness and Communicative Disorders and those outside of the government who gave so generously of their time.

Edward Newman
Commissioner

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PART I

CONTRIBUTED PAPERS

A TRULY SILENT MINORITY

By LARRY G. STEWART

Scattered throughout the land but gravitating toward the larger cities where jobs are more abundant and fellowship with their own kind possible, a silent minority is growing restless under the yoke of centuries-old discrimination and denial of their right as Americans to equal treatment under the law.

Members of this silent minority are denied employment by some of our largest corporations.

They are rejected by the military service and are not permitted to serve jury duty.

They rarely achieve public office, and are not to be found among legislative bodies although they number 300,000 nationwide and 14,000 in the New York City area.

Those within the silent minority are made to feel different from childhood, even by members of their own families. They sit silently apart, ignored or glanced at uneasily. Children tease and ridicule them. In school they are taught in a language they do not know well, by teachers who seldom understand the conditions these children will face as adults. The lucky ones have teachers who are themselves members of the silent minority. Ironically, many schools disqualify such teachers from employment. To deepen this tragedy, schools specifically for children in this silent minority rarely have administrators or board members who are among this minority group. The exception to this is in trade schools and colleges, where pragmatism rather than dogmatism prevails.

After ten to fifteen years in school, members of this silent minority have reading skills at the fifth-grade level on the average and spoken language that is difficult if not impossible to understand for the man in the street. They are then exposed to the full force of public prejudice. Members of the silent minority, although they have normal strength, physical mobility, and intelligence, are most often placed at the skilled, semiskilled, and unskilled levels. Promotions pass them by.

Their neighbors are not sure what to do with them so they usually keep their distance. Grocers, clerks, physicians, and tradesmen approach them hesitantly and are glad when the business is done.

Insurance agents often refuse them automobile insurance despite the fact that their driving records equal or surpass those of the average driver.

Television shows almost invariably portray them as dependent people who must be helped by others.

Courtroom justice for them is usually a travesty.

Rebuffed by the public at large, the silent minority seeks self-expression from within. They have their own national, state and local organizations as well as an international federation. Their organizational, managerial, and creative skills are reflected in the numerous athletic, social, and cultural activities they sponsor. They also own and operate their own insurance company.

Numerous members of the silent minority have overcome the limits imposed upon them to become successful lawyers, dentists, craftsmen, chemists, engineers, teachers and farmers. Their achievements have made them invaluable to their employers and leave no question of their potentials. Yet, because of public indifference to their needs most remain at levels of personal and vocational achievement far below their potential.

The silent minority has not yet reacted in the revolutionary manner used by some groups. They have set off no demonstrations, no violent acts, no cries for equality. Perhaps this patience led one educator, Dr. Harry Best, to dedicate a book published two decades ago in these words:

To Deaf People

The most misunderstood among the sons of men, But the gamest of all.

The patience of the silent minority is growing thin. How much longer must they wait for the freedom, justice, and equality promised to all Americans?

Dr. Larry G. Stewart, who is deaf, is associate director of the New York University Deafness Research and Training Center.

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SEVEN FACES OF DEAFNESS—A SEMINAR

Glenn T. Lloyd, Ed.D.—Moderator
With: Mr. Donnell Ashmore, M.S., Mr. Victor Galloway, Ed.D.,
Mr. Marvin Garretson, M.A., Mrs. Ausma Herbold, M.A.
Mr. Jack Levesque, B.A., Mr. James Magness, M.A.,
and Mrs. Judith Williams, M.A., (Deceased).

The seminar, which resulted in this paper, was conducted in Memphis, Tennessee during the 1972 Council of Organizations Serving the Deaf Annual Forum. Mrs. Pauline (Polly) J. Shahan and Norman L. Tully, Ed.D. did all of the voice recording onto audio tape. We wish to express our sincerest thanks to Mrs. Shahan and Dr. Tully, without whose help this paper might not have been possible, and to each of the participants for their cooperation and willingness to share their most personal feelings and attitudes with all of us. We hope that the reader will have derived a better insight into what it means to be without hearing.

Also, the reader is asked to keep in mind that, in order to preserve the spontanaety and "flavor" of the discussion, only a minimal amount of editing has been done. That which follows is as close to the actual discussion as is possible. It is a straightforward recording of a candid and open discussion. As such, it is the kind of raw material which permits the reader to respond according to his individual insights and interests.

To begin the discussion, the participants were asked to relate, in general, what deafness means or has meant to each.

Mr. Ashmore:

As a congenitally deaf individual who was not educated in a special program or school for deaf children, I do not feel I was thought of as belonging to a minority group; the deaf minority. Having been educated in the public schools and hearing colleges, I was perhaps considered to be a member of the majority group; a member who happened to be deaf. My individuality took precedence over my deafness. By being accepted primarily as an "individual," loved by my parents and others having significance in my life space, I was enabled to develop an adequate self-concept which Maslow infers to be prerequisite for motivation for cognitive and aesthetic aspirations. I believe this acceptance, along with my innate ability to lipread well, enabled me to be successful. Subsequent to my decision to become a vocational rehabilitation counselor for deaf people, I learned manual communication which opened up a broader range of experiences to me. Perhaps the most detrimental impact of deafness on me was the general public's devaluation of my potentialities as a contributing individual to society. My communication difficulties, being relatively minor, created an attitude of indifference on the part of those people who could affect my future course. I do not feel I could have made the grade in my life work without the assistance and "pull" of those who knew me well. This is to say that the general public, to some degree, contributed to a feeling of inadequacy and this, combined with the adequate self-concept and esteem enhanced through association with significant others, kept me in a continuous state of bewilderment as to my actual self-worth. One consequence of this ambivalence of self-concept

was that I would resort to isolation at times which brought a certain degree of peace of mind in spite of the loneliness it created. Nevertheless, I am thankful to have been fortunate enough to have been able to avoid many of the pitfalls that could have caused me to end up with a life of frustration and unfulfillment.

Mrs. Herbold:

I do not think of myself as a handicapped person since the other senses, especially that of sight, make the hearing loss merely a minor nuisance to be lived with; a nuisance of which I am strongly reminded when a hearing person is taken aback when he suddenly realizes that the perfectly normal appearing person next to him is deaf. These awkward moments happen often and anywhere; while waiting for a bus, walking down the street, or riding on a plane, when I suddenly become aware that I am being talked to and that a response is expected. Too many people have the idea that being deaf means helplessness and a life full of misery. This is simply not so unless the deaf person is prevented from developing confidence in himself and as a result withdraws into a shell. This often happens because of too much criticism or overprotectiveness or both. The world is full of handicapped people, each one of whom must adjust to life, even though they hear. Their handicaps are visible. Deafness is unique in that it is invisible. Because of this there exists much more unnecessary misunderstanding about it than about other defects and this is what bothers me the most, since I do not like to be misunderstood or to be knowingly taken advantage of.

Mr. Galloway:

Frankly, I do not know where to begin. How does it feel to be deaf? Compared to what? As I have been deaf ever since I can remember I have absolutely no concept of sound. Even now I find it difficult to comprehend how sound can enter one's head, register some place in the brain, and cause the receiver to perceive auditorily. I marvel at the phenomenon of sound every day. One needs, I believe, to have a frame of reference in order to be able to describe how it feels to be deaf. For this reason I will leave it to others in this room to attempt such descriptions. Those who have at one time heard and comprehended what was heard should better be able to describe the feelings generated by the deprivation of sound. I experienced no such deprivation. Deafness has been my lot all my life. I did not suffer. I did not know any better. I grew up in a school for the deaf where all my peers were exactly like me and where all the adults were accommodative to my deafness. I was never made to feel any different from other persons around me. In retrospection, I must have believed that the rest of the world, or whatever it was that extended beyond the confines of the school for the deaf, was no different from the environs in which I considered myself privileged to exist. It was not until I transferred to a public high school that I began to realize a number of limitations that deafness placed on my day-to-day activities. Fortunately for me, I had the required personal resources to enable me to cope with the frustrations that such limitations created. As the other persons in this room discuss their personal experiences and feelings I am sure I will recall some aspects of my deafness which should be shared with the group.

Mr. Garretson:

I guess I tend to view deafness from two levels which we might characterize as the physical and the social. The first would involve the act of hearing, the disability itself, and would include such elements as hearing doorbells, telephones, the siren of an ambulance, being aware of the sound of thunder and other such aspects of hearing. These I accept as minor inconveniences which have long since been

adjusted to and which no longer appear particularly important in my day-to-day living. The second category, the social or communicative level, might be the actual handicap of deafness, not the fact of nonhearing. This can at times be slightly uncomfortable, particularly when one is "drowned" in a crowd of hearing people and is unable to lipread what is going on. However, deafness is something I have lived with since the age of five – it has become a fact of life and most people learn to live realistically within their environment. By and large I find myself comfortable with both elements, manage to surround myself with friends and colleagues, both deaf and hearing, who are able to communicate in an easy and comfortable manner using all of the communicative elements including signs, fingerspelling, and speech – and who will upon occasion interpret for those who are not yet in the know – in this manner making for a good balance of valence into the world of the general public as well as within the deaf-hearing community which communicates well.

Mrs. Williams:

Deafness means many things at different times to me. One thing common to all these things is the absence of actual auditory feedback and this is replaced by the visual and imaginary illusions of sound. One example is that of washing dishes. Instead of hearing water running from the faucet, I visualize and imagine the sound coming with it. The same is true for swishing dishes, scrubbing pots and pans, and rinsing glasses, and finally letting the water go down the drain. A more visual auditorial experience would be that of watching a train passing by; seeing its massive wheels humming along on the tracks. These are small examples but everywhere I am, including times when conversations are being carried on, I automatically visualize (whether the sound is highly correct or not is not that important but an adequate approximation of it is) sound instead of actually hearing it. This may be the major factor wherein I function differently from persons capable of hearing. My total interpretation of things might be slightly different from those who can hear or from those whose five senses are not at all affected or impaired. Therefore to be a deaf person is to be a total person minus the actual auditory feedback; nothing more. . . nothing less.

Mr. Magness:

Deafness has allowed me to become a professional, which I doubt I would be had I not become deaf. Deafness has taught me that one should not complain about his handicap, but seek ways to overcome it. Because of my deafness, I have readily accepted other handicapped people as being equal to me, no matter what the handicap is. Being a double minority, deaf and black, I find that I have to put forth a greater effort than I would have if I were not in such a position. Thus deafness has taught me to respect others, to strive, and has given me the sense that there is always a way if there is a will. Deafness has taught me to approach problems in a realistic and rational fashion. A well known excerpt, "God give me the serenity to accept the things I cannot change; The courage to change the things I can; And the wisdom to know the difference," has become my inspiration and my guide.

Mr. Levesque:

It is difficult to have to function without the full capacity of one of the five senses–that of HEARING. I have retained enough of my hearing to meet frequent frustrations concerned with hearing sounds in a world so taken for granted by normal hearing people. I am frequently called lucky because of my low degree of hearing loss, but that in itself is just the opposite. I feel it is more difficult to just hear a few words or comprehend a few sounds out of one whole part than not to

hear anything at all. By that, I can hear sounds produced by music and words blaring but I am not able to understand them. It is only with interpretation and guidance after awhile that I am able to understand by myself. Television is a totally frustrating experience for me because the action is very fast and I truly rely on total communication with enormous emphasis on lipreading in order to understand the speech on television. It is frequent that fellow deaf viewers get mad at me because I am not able to fully comprehend what the television box is saying. Group discussions are difficult to follow and again I am lost. I enjoy individual contact and music with only a few people in order that I can understand and follow their interpretations.

Observer:

I would like to ask Mr. Levesque what becomes of students who graduate from a school that uses the oral method of learning. Do they become involved with the deaf world and take part in organizations and clubs with the deaf or do they ignore their deaf classmates and become socially involved with the hearing people?

Mr. Levesque:

It varies with the individual. Some go on to college, some go to hearing high schools. It's the philosophy of the school I went to to send students on to high school after they have finished because the school only goes up to the eighth grade level. Naturally a large part of life is with the hearing society during those years. They get into jobs working with hearing people. Their night life is somewhat balanced. Some participate in deaf clubs more; others associate with hearing people more. We have some people who associate with deaf people and never with hearing people.

Mr. Ashmore:

I would like to react to that from my personal experience. I never attended a school for the deaf but received my education in public schools and hearing colleges. While I was trying to decide on a career, I realized I wanted to work with people. I realized I would not be able to do so professionally with hearing people since communication difficulties would be a barrier to effective relationships. In other words, I realized that communication was vital in the helping professions. On the other hand, I was under the impression that my parents were opposed to my associating with deaf people. I accepted their views at that time. Back then, whenever I saw deaf people, I am sure I shared the feelings that many hearing people have about deaf people. I believe it's a universal feeling. You just cannot explain that feeling. It is there and not until I finally became involved with the deaf world did I begin to understand what deaf people were really like.

Mr. Levesque:

Trying to be objective, did you pick your field because it was easier for you; because you could not meet the challenge in the hearing world which you obviously were a part of for so many years? You chose your field because it would be easier for you or you could have chosen another field of interest which would have kept you in with what you were in before. I for one have noticed many staying in the deaf world in rehabilitation because communication is there. It would be an easier life and I'm asking if that applies to you.

Mr. Ashmore:

No, this did not apply to me at the time. When I first became acquainted with the deaf world, my philosophy of communication was strictly oralism. I had no idea it

would be easier to communicate through sign language. I learned that it was after I became involved with deaf people. Let me explain to you why I entered the deaf world. Originally I wanted to become a medical doctor, but felt I couldn't because of my limitations in communicating with hearing people. I felt hearing people would never trust a deaf physician to treat them. Therefore, in the process of self-evaluation I reasoned that in the light of likely communication difficulties with hearing people it would not be feasible for me to become a medical doctor; however, by entering the deaf world I felt I might be able to help deaf people which would fulfill my vocational desire to work in a helping profession.

Mr. Garretson:

A while ago, you made a comment that I find interesting. You said that you grew up in a "hearing society" with parents who did not want you to mix with other deaf people. You said you had the same attitudes toward deaf people that the hearing world has. I wonder if to you the hearing society was more or less your parents. It seems to me that some parents of deaf children are very oral and defensive and might have a different attitude toward deaf people than other parts of the hearing world. I think you may have generalized a little. For example, there are people in theater, drama, dance, who are not repelled by deafness, but are fascinated. Some salesmen, who make many contacts with all kinds of people, accept deaf people as people. They have to make a sale. But it seems to me that parents of deaf children who have been brainwashed, and some educators of the deaf who've been brainwashed, may have a rather narrow and different attitude than the general public.

Mr. Ashmore:

I would support that. Perhaps I should add something to it. My parents came to visit me last year and I decided to take them to church where we had a special program for deaf people. Incidentally, the deaf were worshipping with the hearing people while my parents were in attendance. During the service, my mother was fascinated by the interpreter and sign language. She also had the feeling hearing people were accepting the deaf people. Shortly after the service I overheard my mother say, "I have a deaf son. . . ," not a hard-of-hearing son as she had always referred to me before. Finally, I could see, she was proud of me the way I really was and showed it.

Mr. Magness:

I was going to ask you about that but I thought maybe that question might be too personal. Have you ever tried to re-educate your parents since you went into the deaf world?

Mr. Ashmore:

No, I wanted my mother and father to make that decision for themselves. I never tried to influence them. I let my life style do the talking for me.

Observer:

You said before when Mr. Garretson was talking that you wanted to be a doctor, but you knew you couldn't be; that hearing people would never trust a deaf person medically. Do you feel that you are really speaking from a hearing person's point of view on that?

Mr. Ashmore:

Well, let me say I felt most hearing people never trusted me. What I mean is I never really felt a complete trust. They would say, "Oh, yes, I think you can do it," but I would have the feeling they really did not mean it. So I felt I would be making a mistake by entering the medical profession. I probably could not trust another person with a disability I did not understand.

Mr. Levesque:

Let's follow up on that a little bit. I don't feel that you couldn't have been a doctor. Maybe that decision was made a few years ago, but as of now there are plans underway to try to get deaf people into the field of medicine. A strong feeling of mine that I don't find here is that I went to an oral school and I'm not ashamed of it. It worked with me; I think it could have worked with many other people if they would have put a little more effort into it.

Mr. Galloway:

Let me react to two areas Mr. Ashmore brought up. First, I can share his feelings about hearing people not trusting him. You know, I had that same feeling when I got word that a founding member organization had withdrawn from the Council of Organizations Serving the Deaf. My first reaction was one of anger. I felt that even though the members of that organization were supposed to be professionals in the area of the deaf they were not accepting us. It was my feeling that they don't trust us. I don't think I can ever forgive them for that. Second, I have the feeling that hearing people would not go to a deaf doctor. I do not think I would go to a blind dentist.

Mr. Ashmore:

Let's try to understand one thing that happens when a deaf person goes to a hearing doctor. The doctor examines him and the deaf patient very often walks out not knowing what's wrong or right with him. It all goes back to communication. I am sure the hearing people feel more or less uncomfortable with us, as we do with them. That was the basis of my decision not to enter the medical field. I knew I could do the academics but realized I probably would not be accepted in the field.

Mr. Magness:

Having fear of a hearing person going to a deaf doctor and Mr. Galloway said he didn't think he would go to a blind dentist comes from one word, "unknown." I worked with blind students for ten years in the Florida school. At that time I wasn't a teacher of the blind, but I was a supervisor in the dormitory. I knew what the blind could do. If you meet a blind person one time and get to know him and he knows you, the next time you two meet, that blind person won't have to ask your name, he'll know who you are. They have ways of touching and feeling and knowing where they are, where they're going, and what they're doing. I feel sure a blind person could be a dentist, and a good one.

Mr. Garretson:

I think the question of trust is an important item for us to look into. I think it has many facets; paternalism, for example, especially in our field of teaching and rehabilitation. I think there is a lot of paternalism. Hearing people are not sure the deaf person can take more responsibility; maybe they tell us how to do our job; and another aspect of that is communication. I don't call that distrust. For example, I come from a three-level family. My father was married three times. I'm the oldest

male in the third family. I was a little bit different from you. When I became old enough to fight, I started arguing with my parents about the sign language and insisted that they must accept me as I was. My family has more or less always accepted me as a deaf person. When my father died, it was necessary to name the executor for the estate. My mother was very open about it. She said, "You're the oldest. You should be the executor, but because you are deaf there will be problems of communication with lawyers and so forth. Is it alright with you if we pick your younger brother?" I said it would be, knowing that the family would and does rely on me for advice. So it wasn't distrust, it was common sense. They get the advice from me and my brother is the "mouthpiece." I feel perfectly comfortable with that situation.

Observer:

I get the feeling from the discussion here that if I were an employer and a deaf person came to me I might not hire the deaf person, not because he was not capable, but because he would not be comfortable in a hearing environment. Mr. Ashmore, you said you weren't comfortable with hearing people. Do you feel that all deaf really belong with deaf on the job and that a deaf person really is not happy, could never be happy, working in a hearing world? Should I as a hearing person not accept you to work with me because you couldn't ever be happy?

Mr. Ashmore:

No, not necessarily, if the position is commensurate with ability. Let me draw upon some of my experience as a vocational rehabilitation counselor. Usually I find employers are not all that concerned as to whether the deaf person can communicate with the hearing employees. If he produces, has the skills, can do the job, they usually accept him. However, the employer will often ask me, "How do you get him started?" We assist by providing an interpreter until the deaf person is oriented to his new job. But then let's look at the deaf individual who attempts to obtain employment on his own. More often than not, a communication breakdown occurs and the employer will either reject the application or place the deaf person on a job below his potential. This will probably breed job dissatisfaction. The problem seems to be that the deaf person is unable to lipread well enough to comprehend or the hearing person's general attitude that lipreading is an adequate replacement for hearing. The deaf and the hearing person never get to fully know one another.

Mr. Galloway:

Some people have said that I have above average lipreading skill. I still can't rely on lipreading alone. I have a hearing wife. She still needs to use signs along with speech for really effective communication. If I had to rely on reading her lips all the time I would be missing a lot. To me all the statements that have been made about lipreading are really myths.

Mr. Magness:

I was talking with a man the other night who said that if you have a good vocabulary, you will become a better lipreader. I was disagreeing with him and we got down to talking about accents and different things like that which interfere with lipreading more than anything else. The ways a hearing person talks to a deaf person! They'll have a pipe in their mouth and mumble or a moustache or other mannerisms that prevent a person from reading the lips. I agree with Mr. Galloway.

Mr. Levesque:

To paraphrase something one of your people in the Model Secondary School for the Deaf has said, Mr. Galloway, it is easier to teach people how to sign than straighten out their teeth, shave off their moustaches or beards, correct the lisp, keep the face straight, make the room bright, and everything else that goes along with having ideal speechreading conditions.

Mr. Galloway:

Right on! I'm not opposed to the idea of lipreading; it can be very helpful. I like people to move their mouths and sign at the same time. I like that. They complement each other very well. I find it very difficult, sometimes, to follow hearing people who sign when they do not move their lips. If they move their lips and sign at the same time I can understand them better.

Mr. Ashmore:

I'd like to share a personal experience which may help people to understand a little bit about the vagaries of lipreading. I think you all know that I am a good lipreader myself. Most all of the time I can keep up in conversation with a hearing person. While I was in college, one day at the dinner table I dropped my fork on the floor. The person sitting next to me, who was my roommate and with whom I had a lot of experience in lipreading, said, "Don't pick up the fork." Well, I didn't see the "don't." I thought he said, "Pick up the fork." I bent over to pick up the fork and he stomped on the fork and it flew up and struck me in the eye. As a consequence, I lost the sight of my left eye. I was trusting my lipreading and the person that was talking with me probably assumed that I could read everything that was said to me. But, it happens, there was misunderstanding. Lipreading was just not giving me all the information that my roommate was trying to communicate to me. Carried to the extreme, I could have died for depending on lipreading. Now, since I have learned sign language I am amazed at how much information I must have missed in the past that I was never aware of. The whole world has opened up and I have a broader experience now because I can communicate more effectively through a combination of methods.

Mrs. Herbold:

The very fact that we are here shows that it does not work for everyone. Often we have teachers who are very easy to lipread by anyone. We understand them with little or no difficulty. Then we meet others who do not speak as clearly or to whom we are not accustomed and we are lost.

Mrs. Williams:

It is my feeling that deaf people's so called "bad English" derives from lipreading itself. When I lipread I get words out of context. Very young, many deaf people establish their language patterns on the basis of how well they lipread.

Mr. Galloway:

Also, frequently when trying to lipread certain hearing persons, I've had to bluff my way through. There is no point in trying to get them to repeat, so what I usually do is bluff a great deal. Sometimes it works. Other times it doesn't. But I know many hearing people who are great bluffers, too.

Observer:

I would like to ask you about that. I've often felt that deaf people are the greatest con men in the world and I've noticed that people who are good lipreaders are people that are good manipulators. They grab on something and they control the conversation so that it's not really a two-way thing.

Mr. Garretson:

You can move to the school situation. That there is a need for lipreading and speech teaching I think we would all agree. It has its place and it has its merit but people should not misunderstand how great its applicability actually may be. It has some use but not to the degree that hearing people think it has. It's hard to find a parallel or an analogy. Perhaps it's something like when taking a course in history you learn many things but you don't use all you learn and you don't remember every date, every battle in the Civil War. Still, you gain a general concept of history which is helpful. Maybe the same is true with the courses in lipreading and speech. We get some help and some use but not to the magnitude the hearing world thinks we do.

Mr. Ashmore:

I have to agree with what was said about deaf people who try to depend on lipreading. You have to manipulate the situation. I remember I was in a group for sensitivity training with hearing people and, boy, I felt left out! So, I took over the leadership. I began to manipulate. Then it became more possible to lipread, to keep the people on my track, to keep them responding to me personally, and I had to do that in order to lipread them.

Mr. Levesque:

He's right! Lipreading is not really a skill; it's an art. Not everyone has it, but even those that have it still have difficulty, because part of our language is inside the mouth. It's impossible to read in totality. It is an art.

Mrs. Williams:

And as Mr. Galloway had just said about people bluffing their way through lipreading, incidents have occurred too often to prove this statement over and over. One incident I recall very clearly, if an example is to be of some help, is when a teacher told a young deaf boy in my school to run over to the printing shop to get a piece of green paper. The instructions were given through lipreading and the boy ran over to the shop and parroted the question given to him by his teacher to the teacher in the shop. The printing teacher then asked him whether he wanted green or red (since green and red look very much alike on the lips). He was confused about which color and had to stop bluffing and went back to the first teacher for which color she had wanted because he did not understand. Examples of this type of bluffing can go on and on.

Observer:

All of you lipread pretty well when you're really controlling the conversation. Do you feel sometimes that you anticipate one or two words before they are even said?

Mr. Galloway:

I can often anticipate what is going to be said and that definitely helps me in lipreading.

Mr. Ashmore:

Yes, one can learn the habits of other people. For example, I have a friend who looks at his own watch when he wants to know the time. When another person asks him for the time he has the habit of looking at the clock on the wall. One day we were working together and he glanced up at the clock. As is natural, so did I and I yelled out, "It's eight o'clock," before he had the chance to do so. I knew the man in the next room had called out for the time. He came running in to find out how it was possible that I had been able to lipread through the wall.

Mr. Galloway:

I've had experience with a few hearing people who tried to learn fingerspelling and signs. They might try to spell a full sentence, but after they have completed the first three letters I would finish the rest of it for them. I keep pushing them to move on with what they want to say. They never have a total opportunity to improve their manual skills with me.

Mr. Levesque:

Could I ask the hearing people: Can you do the same thing? Do you anticipate what other people are saying? I think the situation is the same for both. You can predict as we do.

Observer:

I'm curious about this, but I think I do the same thing that Mr. Galloway is saying. In teaching sign language, you start anticipating what is going to happen and even teach people in class to try to forget the letters and to guess. I'm wondering; should we try to teach deaf children to guess more and anticipate things more? Should that be part of their training, because, in my experience, sometimes we scold children for guessing and yet some of you are saying that guesswork is a very important skill to have later on.

Mrs. Herbold:

To illustrate: I am a very poor guesser and in trying to guess the words I fail miserably. However, when I know what to expect I can lipread. When a person signs to me I do not watch his hands; I watch the lips as he speaks and have no trouble getting the correct word even if a wrong sign is used. Nor do I watch the hand of one who fingerspells if he speaks. Still, the moment he stops signing or spelling I am lost. The moving lips make little or no sense to me as I am unable to anticipate the direction of conversation. Perhaps if I could guess better I could lipread better.

Mr. Garretson:

I think people look at the eyes too. For example, when I ask you to do something and you say no but your eyes say yes, I understand your eyes better.

Mr. Galloway:

I'd like to add to that. It's very important that the full face be exposed to the lipreader. When a person wears sunglasses, I have greater difficulty reading his lips. The lips are the same but I have more difficulty trying to read his lips. If he takes his sunglasses off, I'm able to follow him better.

Mr. Ashmore:

I agree, people who wear dark glasses are extremely difficult to lipread. Also, I would like to bring up another idea related to what you are talking about now.

What about the person who comes to you and has sort of an angry expression on his face? He scares you. You can't concentrate on the lipreading. You wonder when you're going to be hit with something.

Mr. Levesque:

When you're put "on the spot" and asked to lipread, very often you can't lipread. Frequently you arrive at normal situations, you're getting on pretty well, then someone punches you and asks what he said. As soon as this happens, I don't know what he said.

Observer:

I'd like to make a comment on this please. Once I was interpreting for a speaker who used quite a bit of dry humor and knowing how important the facial expression was I tried to give the impression that the voice was giving. When the deaf people looked at the speaker and at me they saw two entirely different things. Yet they noticed the hearing people in the audience laughing. After the lecture was over the deaf people came up to me and asked, "Were you lying when you were laughing and the speaker wasn't laughing?" And I said, "No, this was what the speaker indicated although the facial expression didn't show it." And another deaf person asked, "Is this an example of dry humor?" And I said, "Yes," and he said, "Oh, now I understand what you mean by dry humor."

Mr. Ashmore:

Often, when hearing people try to tell me a joke through lipreading alone, it's almost impossible for me to understand. Immediately the anticipated pattern is broken up; it is reversed. I do not expect that to be said which was said and I get perplexed. I miss the whole point.

Observer:

I'd like to come back for a moment to what Mr. Ashmore was saying before about the expressions of people and how they affect lipreading. Get a person with an angry expression, it's hard to lipread; you don't know how to react. In your experience in learning lipreading before, did the teachers ever emphasize the emotional part of lipreading or was it a dry course? What I mean is, apparently lipreading is not just a skill you learn, it's also an emotional thing. But it seems to me that all the books talk about it as though it's a mechanical kind of thing.

Mr. Ashmore:

Children, hearing or deaf, will obtain most of their language during the very early years of their life. We are not really teaching them during this period it seems. As I see it we are often trying to soften the blow for the parents by trying to get the child to talk properly. This is my feeling.

Mr. Galloway:

I can only speak from my personal experience. But, all the courses in speechreading were designed to offer a person only the cognitive aspects of lipreading; they never went into the affective aspects of lipreading.

Observer:

But, isn't it more the fact that the deaf child is also mentally retarded and you can't teach the deaf child to speechread because he is mentally retarded?

Mr. Magness:

I don't think that mentally retarded is the right term to use. Maybe a better way to say it is that he suffers an educational lag. I understand that the students are behind maybe two or three years in comparison with hearing students. But it doesn't mean they are retarded. They started late. Some deaf children are mentally retarded, but to state that because a child is deaf also means he is mentally retarded is entirely false and illogical.

Mrs. Williams:

Let me say that this educational lag seems to continue even in a school for the deaf. The teachers usually cling to the monotonous drills and methods in introducing the language lessons and they become stagnant and unnatural. An indication of this humdrum would be: "Today is Tuesday, March 1, 1972. It is cloudy and cold outside. Jane has on a pink dress. . . " and so on. The child then repeats the written news after the teacher and after each child has had his drill, they go to their desks and copy the news as it is written on the board into their notebooks. This exercise is repeated daily and takes up a good portion of the morning. This is not natural and the news items are usually not vital. Very often the deaf child becomes bored and relates this to the impression that language is a dull, dry thing and he is not aware at an early age that language is stimulating, fun, challenging, and that it can be a very useful means of communicating ideas. Language activities can be exciting. But, again, the deaf do not get this impression. As a result, they do not develop interest in reading and there is a severe reading retardation. It seems to me that there is an essential association between the two: between language and reading development.

Mr. Levesque:

You know, frequently there is not much room left in the teacher's face in school because her lips have opened up so wide it spoils the natural expression.

Observer:

It sounds to me that possibly people who are preparing to become teachers need to become comfortable and sensitive to deaf people, and be relaxed and have relaxed expressions on their faces if they are to help to teach deaf children these things. Do you think that should be part of teacher preparation?

Mr. Garretson:

I'm not that familiar with that aspect of teacher education, but I would guess that there are some courses or programs that do cover that area. I think the Gallaudet Hearing and Speech people do. I remember Verdry Vaughn would sometimes demonstrate different moods. I don't think they are that unaware of the emotional problem. I'd like to go back a little bit. One day I was on a plane with Ray Jones and he said, "Let's think. Let's not talk. Let's think." We were flying from California to Washington, a long flight. So we just sat silently meditating for quite a long time. Then he said, "I have a question. What single thing in the world do you think would make deaf people happy? Don't answer now, think." So we thought some more and finally I said, "I suppose that if a deaf person could walk into a drug store or a grocery store and say in sign language, 'I want some cigarettes,' and be understood anywhere that's probably the thing that would make us happiest." Ray Jones said, "Fine, do something about it. Public schools offer courses in French and Spanish. Why don't you deaf people start a drive to get signs and fingerspelling put into public schools? I don't think that is unrealistic." I

understand that now a few high schools offer such courses. So, as was said, we can't get hearing people to shave, fix their teeth and all of that. Let's teach the world how to sign.

Mr. Ashmore:

I wonder what deaf people really do when they go into a store and want to buy a specific brand, for example some cigarettes. They can't pronounce the brand name properly without a lot of embarrassment so they will accept a second choice, a choice that is easier to say. I know this has happened to me and I actually became ill from smoking a particular brand which had a name easier to pronounce than the brand I prefer.

Mr. Galloway:

I agree in part with Mr. Ashmore. Last week, Mrs. Williams and I participated in a workshop sponsored by the National Association of Hearing and Speech Agencies and Gallaudet College. It was a workshop to develop guidelines for speech evaluation for deaf adults. It was made up of something like 15 Ph.D. type professionals in Audiology and Speech Pathology. They broke up into four groups and each of the four deaf participants was evaluated by each of the four professional groups. All of the four groups used different approaches in evaluating the deaf participants' speech. Two groups used a picture. They asked the deaf persons to look at the picture and attempt to describe what they saw. The idea was that it would enable them to evaluate spontaneous speech. I objected to this, because as I looked at the picture there were many, many "fancy," more descriptive words in my mind, but because I really could not pronounce them, I picked some of the simpler words. So, really, it was not spontaneous speech. I just used my second, third, and fourth choices, not my first choice.

Mr. Ashmore:

I have a real problem trying to communicate my ideas orally. My knowledge of words is much greater than my ability to say them. I would have to say that it is very frustrating. I know the words to explain my feelings, but I am forced to use simpler words and I just ramble on and on trying to get the idea across.

Observer:

I think everyone here has given a paper at one time or another at a meeting and I'll bet you all sit down and type out what you think. Then you sit down and pencil out the words that you can't pronounce and change them to some simpler word.

Mrs. Herbold:

Or sign the ideas out in a comprehensive way. The use of signs reconstructs the mental picture and gets the idea across to another which is what communication is all about. The hearing person usually passes the ideas, sometimes with equal difficulty, directly into spoken or written form. At one time or another, we have all noted the difficulty as a hearing acquaintance suddenly paused and struggled to find the correct English word for the idea in his mind. The deaf end up using a more indirect approach if unable to find the words: from mental to visual to "proper word."

Mr. Magness:

I want to go back to Mr. Garretson's comment about having sign language classes in the public schools for hearing people. I attended a meeting, a workshop, at Prince

George's Community College last January and that was a proposal that was made: That all the schools in Prince George's County teach signs as another language from elementary through college for credit. It was a proposal. I don't know if it was accepted or not.

The participants were now asked to relate their attitudes towards being deaf and whether they attempt to conceal the fact that they are deaf.

Mrs. Williams:

My attitude toward my deafness is that which people who were born deaf might share. Deafness does not bother me because I can't lose what I never had. But, more and more I have developed desires. I want to auditorily experience, for example, music for the sake of music, and oral-aural conversation. I hate to impose on other people to interpret these things for me. The second question: Do you try to conceal the fact that you are deaf? When I am in a public place, yes. It is not because I am ashamed of being deaf, but because I want people to accept me as I am first, without judging me on the basis of my deafness.

Mrs. Herbold:

I would say that I accept the fact that I am deaf although at first I did not because of my family. Though the family now is very proud of me, especially as I am the only one with college degrees, they are no longer embarrassed by my reliance on sign language. This was not always so. Being the only deaf member I was always warned that I would never be accepted by others. Perhaps being Europeans made them especially aware of the handicap. Communication was no problem in the family as I could lipread and speak their language easily. The problem was imagining what the future had in store for me as a deaf person and it certainly was painted black. This attitude made it difficult to face real life situations and helped to develop an inferiority complex. However, as time passed and as I was forced to deal with people and situations, I learned that being deaf did not make one that much different from those who hear. The problems which we have are the usual problems of humanity with a few more thrown in just because we happen to be in a minority. What draws people together, what makes friendships grow can't be forced. Like interests will overcome any communication barriers just as communication barriers will separate those without common interests. Even the hearing people have their groupings, their isolates, whether in schools or on the job. And we are expected to integrate with them and to be as like them as possible, as if they were perfect. From experience I have found that it is necessary for the deaf to make the first move to let others know what they are like and that they want to gain acceptance for what they are. There is no other way to enlighten those who are ignorant about the real meaning of deafness. Still, when in public I do not advertise my deafness unnecessarily.

Mr. Garretson:

I'm a little bit different from you two. I want very much for people to know that I am deaf. I feel that it makes me more comfortable and it makes them more comfortable if I'm not traveling under false pretenses. For that reason, I like to have another deaf person with me when I travel or a hearing person who can sign. It makes my deafness visible. I find people generally responsive when they see us signing, but when I'm alone nobody knows I am deaf and I'm not comfortable. Maybe someone will speak to me from behind and think I am cold or rude. I want the world to know I am deaf. That's me. Second, my attitude: I don't know if it's

good or bad, but my kids made me feel happy one night a few weeks ago. I have hearing kids who are always talking around the supper table and out of the middle of nowhere they said, "Daddy, we're glad you're deaf," and I said. "Why?" "Because if you were not deaf, you would not be you!" That's enough for me!

Mr. Galloway:

My attitude about my deafness has changed many, many times. I find it very, very hard now to accept some of those deaf people who get on the platform and say, "We should be proud that we are deaf." I don't buy this nonsense. We're deaf. O.K. I'm proud of the fact that I function very well in spite of my deafness. Some people work at being professional deaf people, I prefer to be a deaf professional person. I want to be accepted for what I am and what I can do. I know some deaf persons who do not agree with me, but I think that it is a mistake to claim that we should be proud to be deaf. Hell, just picture a deaf, blind, and crippled person hobbling around proclaiming, "I'm proud to be deaf, proud to be blind, proud to be a cripple!" It's ludicrous!

Mr. Ashmore:

I have positive feelings about my deafness, positive attitudes. But, it's only because I've been successful in reaching my goals. For example, my deafness made me different from other people, made me a special person in the group and it gave me a challenge, something to fight and to live for. It somehow caused my parents not to pressure me to achieve; that was my decision. I have to say that while I was growing up, while I was fighting, I was damn bitter about it and it was hard. There were so many times I wanted to give up, but I kept trying. Then when I lost the sight of my left eye it didn't bother me to the degree one might expect. It was another challenge. The only thing that I regret about being deaf is the social isolation that is imposed on me. I really would like to know people, to feel a part of them, to help them understand me, but my deafness sometimes by itself inflicts a communication barrier. That's the only thing, I think, that I regret about being deaf. Many times I say I am proud of my achievements, but down deep, you had better believe it, it hurts when you can't communicate. You don't want to admit it because it can send you into a depression. But now, getting in with the deaf world and opening up my experiences with many different kinds of people with whom I can communicate very well, I'm more comfortable with my deafness.

Mr. Levesque:

There are a lot of different things. A hearing aid, like Mr. Garretson said, will tell a person if something is up. When you notice a hearing aid you are more aware of the problem of deafness. If you don't notice the hearing aid in public you talk to the person and you're stuck with the situation. I give the person the choice of wanting to talk to me or not. It's not a very good attitude when you are growing up. Deafness means different things at different stages in life. I had two birthdays a year, my brother's and mine. When he had a birthday, I had one too, because I couldn't understand the abstract idea of the birthday. It was very profitable at that time. Growing up, I did not really enjoy television. My language wasn't developed that much. There would be an expression on TV and I wouldn't understand, and the dry humor and other things. It takes time and education. Later, going to apply for a job driving a truck, deafness means having to ask for a job driving a truck and the man will say, "You can't hear," and you say, "Well, what does that have to do with shifting gears?" Or to become a camera man. They'll say you can't hear, but you say, "Well, the camera can't hear. It has eyes." Now I accept the fact that I am deaf and the knowledge that I will have problems later on, too.

Mr. Magness:

As a boy living in the South in the country without a mother and father you would think that I would (I became deaf at age 19) have a negative attitude about my deafness. Well, I went to school because of nothing better to do. When I graduated from high school, one of my aunts asked me if I wanted to go to college and I thought, "What are you talking about?" But I went and the first thing I thought was that I wanted to be a doctor. My aunt was paying my way through college. After I finished my freshman year, her husband became sick and she had to use that money at home and I wasn't able to go back to college. Shortly after that I became deaf. I had never heard of a deaf person before; I had never seen one before. I went to a doctor and was sent to a vocational rehabilitation counselor. He asked me if I wanted to go to Gallaudet College in Washington and I said, "Fine." I was dreaming like many black boys and girls that go to the North to New York or Chicago. I was excited about that and I feel if I had not become deaf I would not be where I am today. After I became deaf I got support from vocational rehabilitation to complete my education at Gallaudet College, so naturally I have a positive attitude toward deafness. There's one other thing. I like for people to know that I am deaf. I hate to go into a store and talk and have them start talking back to me. I write and they still talk to me. If a person knows that I am deaf, communication goes on in a proper way. I never had anyone make fun of me because I am deaf. But when I moved to Washington last fall, some of my children had fights with other children because they said some disparaging things about my deafness. I didn't wish that I was a hearing person, but I did wish that my children didn't have to face that difficulty.

Mr. Ashmore:

I have a question now. Most of us say that we have positive attitudes towards our deafness, but what about feelings? Are you really happy you're deaf?

Mr. Galloway:

I should say I've very positive attitudes about my own deafness because of all my accomplishments in the past several years. I think I've done a heck of a lot more than any of my hearing relatives, but even now I wish I could speak very well. Two weeks ago we had ten hearing people over at our place for dinner and we were sitting around the table. Marilyn was interpreting most of the time, but she had to move back and forth between the kitchen and the dining room. There were several children in the house, also. She had to attend to various things, so frequently I was alone with all those hearing people. They had had very little contact with deaf people. Two or three men were holding forth on their activities, their experiences. I was sitting there watching. I didn't understand anything. I tried to read the lips of these people, but there was no point because of the pace of the conversation, so I stopped trying. Then I started thinking and thought to myself, "I'm sure I have many more experiences than all those men put together and if only I could speak that well I could regale them with tales of my travels, my experiences." But, I couldn't do that and I got the feeling that perhaps they had only limited understanding of my capabilities and I regretted that very much. That was one time I really wished I could have spoken very well.

Mr. Ashmore:

It is not easy for me to pretend I am something which I am not. Oftentimes a deaf person may walk into a store, point to his face, and gesture in such a way the clerk will know he is deaf. I would probably feel awkward if I attempted to do that

myself. I know I have fairly comprehensible speech. However, it is that part which is not comprehensible that starts me climbing the walls. I had one experience in which I went to a butcher and wrote my order on a piece of paper. Thereafter we communicated with paper, pen, and gestures. He was most cooperative and helpful to me. Apparently he understood I was "deaf." When I approached another clerk and told him I was deaf I felt a startling response from him. Apparently, with his limited knowledge about deafness he could not comprehend the idea of a deaf person talking to him. Apparently, from his own frame of reference, deaf people talk only with their hands. He didn't understand and wondered if I were pulling his leg or something. Yes, sometimes I would prefer to hide my deafness, but then I can't. I try to do the best I can, in my own way, to communicate.

Mr. Levesque:

I have, hopefully, intelligible speech sufficient enough so that people understand. I have a lot of pride in myself. When I go into a public place, meaning a store or restaurant, I try to use what facilities I have and if for one reason or another I am not able to transmit my thoughts, I write. I've passed the stage where I just don't know what to do. It's an accepted thing. You can't avoid that. With respect to Mr. Galloway's argument, communication's a two way street. He's unable to communicate expertly vocally. I think I could do that, but I also like to listen and I'm unable to do that in a group. They have many things they could tell me if I could listen to what they say. Many times when I am with deaf people they ask me to interpret and I try sometimes, not frequently. I'm not very successful.

Mr. Magness:

In answer to the question about whether a person can be positive about his deafness and at the same time be happy: It's a fact that you're deaf. You can't change it. So what are you going to do about it? You accept it. I must admit the advantages of being deaf are greater for me than the disadvantages. I am a loner because I'm deaf. There is nothing I can do about it. Deafness has done much for me so I can't complain now. For example, on the basis of percentage we have very few deaf professional people compared to the percentage of the hearing people. If you were in a hearing world you would be competing. In the deaf world, percentage-wise, we have very few professional people. I think it is wonderful to have a deaf person become a professional because many hearing people don't expect that from us and I feel I have more status as a deaf professional than I would as a hearing professional.

Mr. Ashmore:

Mr. Levesque, you said you've learned to accept deafness. You're saying the same Mr. Magness; you've accepted it. But I'm not sure if I have accepted my deafness or not. I'm functioning too close to the hearing world. Now, I just want so badly to be part of it. I love music. I love to play the piano. I'm not good but it's a good feeling to feel. I want so badly to hear, to be one of those people who savor the variety that sounds are bringing to them. They talk about the birds in the trees; they talk about so many auditory experiences. I sometimes feel so lost and that I'm missing a lot. I feel that sometimes, for that reason, I can't experience everything that life has to offer me. I sometimes feel bitter about it, but I'm very, very happy for my accomplishments. I'm pleased and I'm not saying that I'm bitter or mad at the world. I've accepted it, but, damn, I sure wish I could hear and enjoy the many other things reserved only for those who can hear.

Mr. Garretson:

I feel pretty much like you do. I said I feel positive about my deafness. I'm not bitter or unhappy, but I would like to watch a TV program and know what's going on; I'd like to go to plays, to enjoy music, all those things.

Mr. Levesque:

My father says, "Hell, you're deaf. You have it made. You can go everywhere. You meet your friends in every part of this country; even in Europe. So what are you complaining about? Because you are deaf, you have a oneness with people denied to us. Being deaf is an enrichment for you. I envy you."

PARTICIPANTS

Mr. Donnell H. Ashmore, 28, has been deaf since birth. He attended the regular public schools in Seattle, Washington, and received his B.A. from Warner Pacific College, Portland, Oregon, and his M.S. from the University of Tennessee, Knoxville. Mr. Ashmore has no usable hearing.

Mr. Victor H. Galloway, 43, became deaf at the age of one. He spent much of his school life in the South Carolina School for the Deaf, Spartanburg, South Carolina. He then completed his pre-college education at Spartanburg High School. Mr. Galloway holds a B.S. from Gallaudet College, Washington, D.C., an M.A. from San Fernando Valley State College, Northridge, California, and is nearing completion of his Ed.D. at the University of Arizona, Tucson. He has no usable hearing.

Mr. Mervin D. Garretson, 48, had hearing until the age of 5. He completed schooling at the Colorado School for the Deaf, Colorado Springs and was awarded the B.A. from Gallaudet College, Washington, D.C. He subsequently earned the M.A. at the University of Wyoming, Laramie, and is currently pursuing a doctoral degree at the University of Maryland, College Park. He has no usable hearing.

Mrs. Ausma S. Herbold, 32, lost her hearing at the age of 6. She attended school in the Class for Latvian Deaf in Germany and was graduated from the Illinois School for the Deaf, Jacksonville, after moving to this country. She holds the B.A. from Gallaudet College and an M.A. from Georgetown University, Washington, D.C. Mrs. Herbold has no usable hearing in the right ear and very little hearing in the left ear.

Mr. John F. Levesque, 27, is currently a senior at Gallaudet College. He completed the program at the Clarke School for the Deaf, Northampton, Massachusetts, and was subsequently graduated from the Monson (Massachusetts) High School in its regular program. He lost his hearing at about 6 months of age and has only a minimal amount of hearing left.

Mr. James D. Magness, 38, attended regular public schools, including one year of college, in North Carolina. He lost his hearing at the age of 19 and has no usable hearing left. He received his B.A. from Gallaudet College and his M.S. from Albany (N.Y.) State University.

Mrs. Judith Williams, 28, was born deaf and retains no usable hearing. She attended Public School 47 (day school for deaf children) in New York City and the Marie H. Katzenbach School for the Deaf (formerly the New Jersey School for the Deaf), West Trenton, New Jersey. She went on to earn her B.A. and M.A. from Gallaudet College. Deceased May 1972.

JUST LIKE "REAL" PEOPLE*

By E. D. MINDEL, M.D.

In a deaf child's family, when the youngster's deafness is discovered, a series of conscious decisions must be made on how the child is to be raised. The important word in the preceding sentence is "conscious." For such a family, child-rearing decisions do not unfold as readily and naturally as in the case of a child whose physical and emotional development falls within the average range. In the more common situation, child-rearing practices tend to be based mostly upon the parents' own childhood experiences and, to some extent, on uncultural currents. These experiences often affect child-rearing without the parents realizing it because their own childhood days are forgotten, buried by years of experience as adolescents, young adults, and mature adults. The deaf child, however, does not necessarily respond to child-rearing practices that are predicated on inbuilt parental models from their own past. Thus, a situation can easily develop in which average parental expectations conflict with the unanticipated different behavior of the deaf child.

From many professional groups whose concern is the habilitation of deaf children the phrase "the family must learn to accept the child's deafness" is often heard. It is used in different ways. Sometimes it is as though the speaker were issuing a mandate or command, and simply saying to the parents, "Like it or not, you have a deaf child, so accept your misery." Such an approach rides roughshod over any parental feeling on the conception and birth of their deaf child. To other professionals, acceptance of a child's deafness is not so much a mandate to be given to parents as it is an admonition directed to themselves – that is, to the educational and medical agencies which seek to create reasonable and intelligent programs for deaf children and their parents. This self-imposed mandate helps to create an educational and therapeutic atmosphere conducive to the development of the family and their child with due concern for the special needs created by that child's handicap.

In talking about children with handicaps, I am always aware of the tendency to use words meant to soften the impact of a child's physical or emotional difficulty on the parents or other adults. Words like "special" or "exceptional" often are employed to remove the stigma from references to the child who does not conform to physical or emotional averages. In my professional practice, I have never felt that anyone has been helped by changing the correct name of the difficulty to something that seemingly has a less harsh sound. In fact, such euphemisms often can themselves be harmful in that they have a temporizing effect. They tend to blur the distinctions between problems that should be treated immediately and ones that can be taken care of later. If the child is called hard of hearing instead of deaf, and that terminology implies that he can use hearing to develop language when, in fact, he cannot do so, much valuable time is lost, and the child is injured further. It seems to me that the child is best benefited by total honesty about his handicap. "Total communication" need not refer only to information

*This paper is a speech given April 20, 1972, by Dr. E. D. Mindel before a group of parents of deaf children. Dr. Mindel is Director, Child Psychiatry Services, in the Michael Reese Hospital and Medical Center, Chicago, Illinois.

exchange between the parents and the child.* It can refer also to the broader issues of communication between the mother and father and between the parents and community. All should be carried on openly and honestly in terms of the child's capabilities and difficulties.

In this presentation, I intend to cover several areas which I believe relate especially to development of an understanding of some of the particular aspects of raising a deaf child. I shall also discuss the importance of, and the difficulty in, establishing empathy with the deaf child, in fostering the deaf child's ability to effectively engage his social environment, and certain questions pertaining to the development of flexible thinking and action patterns in children. I have not eliminated from this discussion concerns about communication methodologies. All of the factors just listed are interdependent with communication ability. Thus, in talking about the deaf child, we can never relegate communication problems to a secondary status. Describing and discovering interdependencies is a complex, and frequently overwhelming, task. I believe its very complexity has led people to look for single-minded solutions to the problems of helping a deaf child adapt.

The extent to which a deaf child can be raised just like a real child is a question that cannot be fully answered today. The parents of adult deaf children, the real experts, can look back and recall when normal activities were possible for their children and when they were not. For the parents of young deaf children, their growing-up involves constant discovery. This is also true, of course, for parents of hearing children, except that, in their case, the discovering does not concern the hearing function. Instead it is about things like physical growth, emotional stability, learning capacities, physical illnesses, and the like. The parents of the hearing child are not so much confronted daily with the effects of a handicapping condition. Parents and children can relax with each other more often. They can more frequently capture and preserve the spirit of freedom and fun that *is* the child. The latter I submit is obtainable with deaf children, but much more initial labor is required. When parents and child are relaxed with each other and having fun, both feel just like real parents and just like real kids.

Achievement of this condition requires first an accurate appraisal of hearing as well as of any other physically limiting condition. For example, before father and child can together toss a ball, play tag, or ride bikes on Sundays, the father must be sure that the rubella virus has not deformed the youngster's heart to the extent that he will soon become short of breath and have to rest a few moments; that the virus has not interfered with the coordination mechanisms between the brain and muscles, making him slower than his brothers in learning to catch the ball, and so on.

Knowledge of a particular deaf child's physical capacity develops from a careful combination of the physician's knowledge of the child's physical condition, and the understanding and observation of the parents. Unfortunately, the vast majority of physicians are woefully ignorant of the behavioral manifestations of deafness in children, and often caution parents to waste valuable time with their hollow reassurances that everything will be all right. As a medical student, I was taught virtually nothing about deafness, let alone the social implications of being deaf. This widespread ignorance of physicians prevents development of the kind of early alliance between the medical profession and families that promote effective communication with the deaf child. Fortunately, more and more parents are coming to centers where comprehensive diagnostic work on hearing is possible, and where productive parent-professional teams can be created.

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*"Total communication" as Mindel refers is defined by some as "the right of the deaf child to learn to use all forms of communication available to develop language competence".

I have made an effort in this paper to avoid devoting most of my space to the "communication controversy." As parents and professionals concerned about deaf children, you readers are very familiar with all of the arguments in and around the methodology issue. Unfortunately, as much as some would like to avoid enlightened discussion by calling the controversy "old hat" and the like, the issues are very much alive. I would like to quote extensively from a letter written to a deaf woman by the mother of a young deaf child. Both mother and father are professionals. She writes,

> You have very definite feelings and ideas about being deaf, and what I must do for my son. However, it was (for) exactly a year that we had known about "deafness" when your letter arrived. What I thought we had worked through in that year was shattered when I read your advice.
>
> I know we are speaking on two very different levels when we talk about being deaf. You are a post-lingually deaf adult and our son is a pre-lingually deaf child. Having lost your hearing after language had been established must have been an extremely frustrating blow to you whereas our son knew no other world than that of deafness. However, his frustration was greater in many respects because our mouth movements were strange to him and when he tried to convey what he felt he was thwarted in so many ways.
>
> However, he is a very different child now. When you were young, I realize hearing aids were bulky and not very good, but hearing aids have come a long way. Our son wears two of the finest aids available and they enable him to hear and distinguish sounds across the speech range. If you could have seen the look of amazement and sheer delight on his little face when he was fitted for the aid you wouldn't have much doubt that at least we must give him a chance to use the small amount of residual hearing he has left. I am firmly convinced that the term "deaf and dumb" is one that never need be used again, for with excellent training such as our son is receiving he is learning to lipread and he is talking. I am not deceived that his speech will be perfect for his loss is a very profound one, but I do think he will be able to communicate successfully in the hearing world someday. This is a hearing world and for one to live and achieve in it sign language is not enough nor is it morally uplifting. In fact to many people it is embarrassing and degrading and extremely limiting.
>
> Our son is an extremely bright child and although he will always be deaf, I intend to help him live as normal a life as possible, so that his hearing loss will just be secondary. If and when I see a need for him to have signs, I will see that he gets them but at this time I only feel it would limit his oral ability. Signing is too easy; why talk?
>
> Communication has been established in many ways. Naturally, we use language and lipreading but we also point and show things and he is not unduly frustrated. If we cannot understand what he wants, we have him show us. All this is done without formal signs, yet it does indeed involve signs (casual though they may be).
>
> Perhaps you have never seen any truly successful oral children or adults. I must admit that there are few good programs in the United States; however, our son is in one of them. I hope someday you can come and visit the school – I think it would change your outlook a bit. We don't pretend that every child can make it orally, and I still don't know for sure how oral he will be (I'll have a better idea when he's 5 or 6), but I feel it would be an injustice to him to limit him to the world of the

deaf when he has so much potential. He is considered a gifted child – having had one yourself, I think you know how much these children strive to want to learn just everything and how aware one must be of their special needs – not so unlike a handicapped child.

I do feel parents must be committed to something for their child and we have chosen oralism for the time being. So far we are completely delighted with the results for our son, and even if he requires signs later, he will never have lost through this method; in fact, he will have gained.

After reading such a letter I am left with a profound sense of frustration. Actually, the first word that came to my mind was not "frustration," it was "despair." I had to remind myself of how far we have come in improving educational opportunities for deaf children, and of the rapid increase in the number of schools that employ diverse methodologies. In other words, parents now have choices; yet, a haunting thought that remains is the knowledge of what really has happened to the majority of bright, gifted, radiant deaf children so full of the human potential to learn and create.

There are many points in this letter that merit discussion. I have dealt with them at some length in THEY GROW IN SILENCE.* There are: the subtle appeal of the allegedly miraculous cure through hearing aids or other similar devices, the age-old sentimental appeal of the suddenly made happy child, the Tiny Tim psychology, the assumption that total communication advocates are against using residual hearing or against the deaf child "getting along in a hearing world," and so forth. But there is one major point I wish to comment on now. It concerns those things that touch on what I consider the most personal aspects of having a deaf child or any child with a major disability – namely, the chances one is willing to take with that child's future on the basis of faith. To quote from the letter again, "I am not deceived that his speech will be perfect for his loss is a very profound one, but I do think (and I, Eugene David Mindel fervently hope) he will be able to communicate successfully in the hearing world someday. This is a hearing world and for one to live and achieve in it, sign language is not enough nor is it morally uplifting." And, finally, what more personal, private, and meaningful statement could one make than, "In fact to many people it (sign language) is embarrassing and degrading and extremely limiting." At this point, this concerned and thoughtful mother is no longer speaking for her child; she is speaking for herself. Sign language is, in fact, the mother tongue of the deaf. It is their vehicle to learn best the customs, whims, and fancies of a largely unsympathetic and unempathic hearing society. They do not regard it as degrading; they do regard the ability to learn language as "morally uplifting."

It is amazing to me personally that I have remained interested in the methodology controversy as long as I have. I suppose that what keeps me involved are the stubborn, irrational elements of it, the political and economic issues it concerns, all that is to be learned about the development of human communications, and, above all, the pleasure of helping remove the impediments to natural exchanges between parents and their deaf children.

Perhaps one of the greatest obstacles to treating deaf children like normal kids is their very "kiddishness" – that is, their natural expression of feeling; their vivacity, impulsiveness, and moodiness; their fascination with body functions and occasional

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*Mindel, E. D. and McCay Vernon, *They Grow in Silence.* National Association of the Deaf, Silver Spring, Maryland, 1971.

careless handling thereof; their directness in dealing with the attributes or faults of others; and so on. Children can enjoy their naturalness but often pay for it because of what it stirs up in adults or other children. It may get them punished or admonished – invariably with the claim that "it is for your own good" and "hurts me more than it does you" – all directed theoretically toward the goal of acculturation. Without adequate means of communication, deaf children are caught in a squeeze. Language serves to channel these kiddish attitudes into more socially acceptable ways. The hearing child can hear the admonition and sense the adults' way of diverting natural expressions, but the deaf child cannot. He suffers the same disagreeable consequences of his actions as does the hearing child, but he lacks the same escape route.

To develop an emphatic position to the deaf child, one must first get beyond the kiddishness, which they share with hearing children. To explore this problem further we must return to the issue of communication. It is not enough to observe that the child *seems* to be happy, just as many adult deaf people seem to be happy because they smile so much. Joanne Greenberg* has aptly named this the "false fine." Many times I have seen hearing children behave similarly. When one asks a child who has been getting into trouble, or experiencing adjustment difficulties, how things are going, the answer often is "fine.' Translated this usually means, "Why try explaining; you wouldn't understand anyway and I might end up worse off than when I started." The deaf child *must* have a vehicle for communication that is serviceable from the first moment he is ready to sign that he has a need. "Mama" at ten months must, at five years, be "Mama a boy hit me," or "Mama I have a pain in my side."

But empathy implies so much more. It is the fine appreciation that we can – but, alas, seldom do – take account of the intimate sensibilities of our fellow man. With language, normal intellect, and emotional health, it is hard. Without adequate language exchange, it borders on the impossible.

Because most of us have developed as hearing individuals, and because the deaf child has developed as a deaf person, the establishment of empathy, and a real perception of what it is like to grow up deaf, is very hard to achieve. I would guess it is almost impossible in the fullest sense. Joanne Greenberg's IN THIS SIGN has gone further toward creating such empathy in the hearing reader than has any other work I have seen. I have observed personally, however, that the more total communication has become a natural second language for me – illiterate though I may be in communicating manually – the more I am able to feel a greater sense of unity with deaf people. When I first began to work actively with the deaf, I felt that deafness necessarily imposed a barrier that would prevent me from ever achieving a feeling of closeness to persons with this handicap. As I have become more and more aware of their view of the world, and increasingly fluent in their language, that feeling has begun to dissolve. The wall has been in me. I cannot say that I will ever be fully empathic with an illiterate deaf individual, for I do not know of any way in which I can fully appreciate how his intellect has structured his view of the world. Although there are some who become highly skilled in communicating with illiterate deaf people, even with them it has been my observation that establishing empathy has been very difficult.

Failure to establish intimate and adequate communication with a deaf child ultimately generates in him a profound sense of isolation. An observing friend has said that while she recognizes the importance of extensive thought, talk, research, and

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*Greenberg, Joanne, *In This Sign*. Holt, Rinehart & Winston, New York, New York, 1970.

controversy about communication, she believes a major problem that has been somewhat overlooked is the feeling of isolation which the deaf adult experiences. This isolation is born partly of the deafness, per se, but to a larger extent, I think, stems from the communication problem that leaves the deaf child unable to investigate the subtleties of his culture. It has been his burden to attempt to adapt to a hearing world. While the hearing society luxuriates in a release from its responsibilities to its handicapped citizens, the deaf child's share of the burden has been increased. Not only is he deaf, but he also must take on the burden born of the wishes of the hearing society for him not to be deaf. With the burden of difficult communication and the guilty feelings of the hearing, the deaf child and deaf adult may often have little time left over for the discovery and enrichment of their own lives; thus, the deaf child is further prevented from investigating, discovering, and having fun like the average hearing child.

For deaf men and women, there is an extensive lore about social events at which, they discover later, they committed faux pas. These stories are sometimes told with bitterness, and sometimes with humor; also, there is the counter reaction of deaf persons looking for, and easily finding, inconsistencies and hypocrisies in the actions of those who hear. But the hearing person mostly is spared from experiencing the anger in these stories. The reason (and I must stress I am speaking for myself and am speculating, and do not presume to be representing deaf people) is not because deaf people necessarily want to keep their bitterness to themselves, but rather because society has denied them the communicative tools necessary for successfully coping with the situation, or expressing their bitterness and frustration. No matter how much various academicians and pontificators would like to relegate communication to a secondary status in the past and current problems of the deaf, it keeps rearing its head. A large brain capable of creating and transmitting symbols and culture, an upright posture, and the capability to make tools – these are basically the attributes that set human beings apart from other animals. Cutting off the capacity to communicate strikes at the very heart of what makes us human.

It is hard to divest oneself of the daily responsibilities of a complex world to become empathic with the quiet world of the deaf child. Some of the things which we think will be of vital interest to the deaf child really stem from our own cares. The world is changing much too fast for us to make predictions about its future state. Fifteen or twenty years from now, today's deaf child will be a young woman or man wanting to take her or his place in academic or vocational circles as a productive and respected human being. What qualities do we want to foster in these children, to prepare them to take their rightful place in society? Perhaps, we can give some real meaning to another of the popular oralist phrases: "The deaf child must learn to get along in a hearing world." I have already discussed two necessary qualities. One is the child's personality built through a parental relationship to that child in which there is a true understanding of his capacities. The second results from the kind of communication with a child that moves that child toward literacy.

A third quality in the personality development of the deaf child which is directly related to the communication problems is flexibility. Deaf children and deaf adults have been described as having "rigid" personalities. Use of such a term often amounts to a value judgment by hearing people because they are in full possession of their sensory capacities, and so have more data at their disposal to make simple and complex decisions. The fewer data one has available, prior to making a decision, the more one will tend toward personality rigidity in comparison to hearing contemporaries. When deaf children and adults are compared to other deaf children and other deaf adults, such terms are seen

to be mostly value judgments. The deaf child copes as he is able to cope. The more really usable information he has at his disposal, the more solutions he will be able to bring to his developmental tasks, and the more flexible his personality as an adult will become.

It is not hard to discover parallels in our own lives to the problems confronting the deaf child in his life. One can think of many times when the ability to be more flexible in creating solutions to conflicts would have been a valuable asset. And, if we do not choose to look into our own households, then we can look at the world at large, to international diplomacy – or, should I say international disaster. Here, the lack of flexible decision making and the rigidity of national policies have prevented real solutions to worldwide conflicts. How often have these failures resulted from inadequate information at the disposal of the combatants–inadequacies caused by divergencies in language and culture? It is not failures in the language development of politicians or diplomats that has created difficulty; generally they are hearing men and women. Their natural linguistic capacities began to fail them, however, when they had to deal with an alien culture. Consider another parallel. How easy it is for us to distort the real personalities of the peoples of other countries by virtue of the rigidities in our own conception of those nations and their cultures!

Degree of flexibility in the child also reflects the flexibility characteristic of his family in working out day-to-day problems. It relates to the family's thoughtfulness about major decisions, but more often than that, I believe, what is communicated to the child is a whole life style. How much consideration, care, concern, weighing of alternatives and so on, really occur? Much of the process should ultimately be made known to the child. The younger the child, the less flexibility he possesses. With growth, his behavioral repertory should increase. This growth comes from the child being shown, and from the endless explanations which the child demands and which he should be given as completely as possible. One measure of success the parents of the deaf child can use is the youngster's ability to ask questions up to their threshold of exasperation – that is, until the parent of the deaf child experiences the same kind of provocation that the parents of hearing children do as a result of the endless repetition of "Why"?.

The above brings me to a natural conclusion of this paper, which has helped me crystalize my thoughts and feelings about child-rearing and deaf children. I have tried to emphasize some of the stumbling blocks in reaching the deaf child's natural kiddishness and playfulness; his demand for and comfort with physical contact; his naturalness about his body, its content and its functions; his endless curiosity and the language capacity which grows up with the maturation of that capacity to serve it; the growth in the flexibility of the solutions; the child's increasing sophistication about the subtleties of social structure; his ability to understand the problems of his fellow man; and so on. A complete list would be almost endless, for if one tries to understand what is unique about raising a deaf child, he must, in effect, attempt to catalogue the whole substance of human behavior. That is a job for encyclopedists. The extent to which parents can raise their deaf children just like real kids is measured by how much they have allowed those children to make them feel like real parents. The following quotation from John Locke (1693)* seems appropriate:

> When any new thing comes in their way, Children usually ask, the common Question of a Stranger: What is it? Whereby they ordinarily mean nothing but the Name; and therefore to tell them how it is call'd, is usually the proper Answer to

*Locke, John, *Some Thoughts Concerning Education.*

that Demand. The next Question usually is: What is it for? And to this it should be answered truly and directly: The use of the thing should be told, and the way explained, how it serves to such a Purpose, as far as their Capacities can comprehend it. And so of any other Circumstances that shall ask about it; not turning them going, till you have given them all the satisfaction they are capable of; and so leading them by your Answers into farther Questions. And perhaps to a grown Man, such Conversation will not be altogether so idle and insignficant as we are apt to imagine. Children, do often offer things, that may set a considering Man's Thoughts on work. And I think there is frequently more to be learn'd from the unexpected Questions of a Child, than the Discourses of Men, who talk in a road, according to the Notions they have borrowed, and the Prejudices of their Education.

DIAGNOSTIC CRISIS AND ITS PARTICIPANTS

By HILDE S. SCHLESINGER, M.D.
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The diagnosis of early childhood deafness is a critical event with many participants: The child, his parents, many professionals and society itself. The phenomenon almost invariably creates a crisis and the feelings engendered by it influence all the participants deeply.

The Parents' Solution of the Crisis

The birth of an intact child into an intact family is itself a potential life crisis. The life style of the family members is almost always drastically changed, and a readjustment of roles within the family must be achieved. The ability of each family to truly welcome the arrival of a brand new, small, entirely dependent human being depends on the maturity of the parents, their sense of self-esteem as persons and spouses, and their willingness to receive a child of a particular sex and a particular temperament at this specific moment of their lives. The child-to-be is usually seen as an idealized creature who will be able to meet or surpass his parents' achievement, and is thought of as generally giving pleasure. Nevertheless, from the mother's early pregnancy on the same idealized child may well frustrate some parental needs, and even evoke resentment on occasion. Bearing children involves countless frustrations, deferred gratifications, and discomforts which must be endured (Ross, 1964).

Most women fear, but do not truly expect, the birth of a child with a defect. However, a fair number of physically handicapped youngsters are born each year. Literature on such births (reviewed by Ross, 1964, and Wright, 1960) clearly indicates that their normal mothers experience almost predictable feelings and actions. Our own work indicates that parents of deaf children share these "predictable" feelings which are summarized below.

Anxiety is a frequent spectre and "tugs" at parental self-esteem and effectiveness prior to diagnosis of the defect, at the time of the diagnosis, and for many years thereafter. The impact of rubella in the early months of pregnancy, or the knowledge of Rh incompatibility, intensifies the usual parental anxiety about the normalcy of the newborn child. Anxiety is frequently followed by early parental suspicion that something is amiss, and, indeed, parents often reveal themselves to be excellent diagnosticians. In one study, seventy percent of the parents, aided by an additional sixteen percent of the grandparents, were found to have made the original suspected diagnosis of deafness (Fellendorf and Harrow, 1970). We shall discuss later what happens to these parents when they attempt to clarify or corroborate their suspicions through consultation with professionals, but let us assume for the moment that their suspicions are confirmed by medical diagnosis.

During the process of suspecting, recognizing, and identifying the handicap, the following emotions are normal for parents: shock, bewilderment, sorrow and guilt. As

previously noted, most parents expect an "ideal child;" in many ways this child is perceived as a gift to the mother, from the mother to her husband, or to her own parents. If the child is not perfect, old archaic conflicts are revived in even the best adjusted parents. Bewilderment and shock occur because of the discrepancy between the expectation and the reality; and the sorrow, which frequently is chronic, is accompanied by a genuine mourning reaction for the loss of the expected perfect child (Ross, 1964). Guilt feelings, almost always irrational, occur frequently. The parents may ask themselves: "Why did this happen to me?" only to come up with the answer: "Because I was bad!" Such a self dialogue awakens feelings of resentment and anger directed at themselves and at the child. These negative feelings against a child are usually unacceptable to parents and are likely to be translated into guilt feelings.

These are some of the feelings evoked by the birth of a child with a defect. How do the parents deal with them? Ideally, parents share the emotions mentioned above and, after a nominal period of mourning, proceed in a rational way to help their child develop to his maximum potential. However, our society and our own make-up include pressures that tend to make us repress our feelings, and deny the difficulties, defects, and problems. The guilt feelings previously discussed occasionally explode into angry accusations, such as: "The spouse or the doctor really are responsible." At other times, unacceptable anger at the child is translated into an overly rigid adherence to therapeutic regimens. These actions ostensibly are taken for the child's own good, but with a fervor which appears almost punitive. At yet other times, unacceptable anger at the child results in parental vacillation between overprotection and overt rejection. A final, relatively typical parental reaction appears to be self-sacrifice and martyrdom for the child's sake. These pathways, chosen unconsciously to be sure, do not produce optimal solutions to the diagnostic crisis. Accusations of guilt, rigid adherence to therapeutic regimens, overprotection, and self-sacrifice strain family relationships, and child, parents, and siblings suffer. In our attempts to achieve self-esteem, we desire to reproduce an impossible normalcy, intactness, and conformity; we wish to eliminate the defect itself and the differences which it causes. Such desires occasionally lead to a search for miracles, or a temporary paralysis in accepting parental responsibility. This may also contribute to the underutilization of hearing aids, or to a bias against early instruction in sign language, both of which clearly make the child's defect more conspicuous.

It was noted above both that on the average parents are excellent diagnosticians, and that parental anxiety is frequently compounded by professional denial of the diagnosis or by false reassurance. One-third of the parents interviewed by Meadow (1968) and seen by Schlesinger (in progress) indicate that the first physician consulted denied the suspected deafness. Sixty percent of the parents in Meadow's study consulted four or more physicians prior to receiving a definite, accurate diagnosis. Relationships between parents of defective children and professionals have been previously reported as strained. And blame for the stress usually has been attributed primarily to the parents who "project fantasies. . . and depreciate the value of professional knowledge and experience" (Katz, 1961). This may be partially true, but the place of professional knowledge in this kind of situation needs to be evaluated more carefully. Why are physicians so frequently seen as being unable to help?

The Professionals and Their Contribution to the Crisis

Early childhood deafness is rare. The best estimate states that it occurs about eighty times in one hundred thousand births (Rainer, et al, 1963). The defect is invisible; the infant is said to react normally; the babbling and the other reactions to parental cooing

do not give clues to the defect (Downs, 1968). Furthermore, the symptoms produced by early childhood deafness – delayed speech and lack of "attentiveness" – are ubiquitous and resemble those of other childhood disorders such as mental retardation and emotional disturbance. In short, early diagnosis of deafness is rendered difficult by its infrequency, invisibility, and uniqueness, and by the sharing of symptomatology with other childhood ailments.

Another factor that makes the early diagnosis of deafness difficult is the frequent paucity of training received by young physicians about the diagnosis, prognosis and treatment of early childhood deafness. Despite these difficulties, Fellendorf and Harrow (1970) indicate that diagnosis is reasonably prompt. Fifty percent of the cases are correctly diagnosed within one year after birth, another forty percent before two years of age, and only ten percent after the second year of life.

A further difficulty occurs, however. Even if the physician has received sufficient training to enable him to diagnose deafness, it appears that "physicians and other professionals receive inadequate training in helping the *parents* of handicapped children" (Fellendorf and Harrow, 1970). Unfortunately, successful training in this second area is more complicated than simply conveying medical facts about deafness. Before he can help anxious parents with a newly diagnosed deaf child, the physician must have clarified for himself his helper's role. Because of the usual irreversibility of the defect, physicians find themselves in a diagnostic rather than a therapeutic role, a difficult position for most doctors. Physicians as a rule prefer to encounter illnesses which they know well – ones they can both diagnose and cure. A physician (like other human beings) dislikes being the bearer of ill tidings, or admitting ignorance about an illness or its definitive treatment. Many physicians have learned to collaborate with other disciplines on remedial and habilitative measures for young deaf infants, but too many have not. Consequently, at the time of diagnosis – a time of crisis when the parents desperately need additional support, succor and sympathetic listening – they may encounter professionals who are not optimally equipped to help. Hampered by ignorance about deafness and by lack of training regarding distressed parents of handicapped youngsters, the professionals may even devise unproductive pathways out of the crisis. He may retreat from the interview hastily to avoid discomfiture; he may offer false reassurance; he may postpone diagnosis or treatment; he may deny that treatment exists. This has been documented poignantly in material collected by Fellendorf and Harrow (1970).

We have indicated that the rarity of the condition, its invisibility, and the paucity of training all contribute to a lack of optimal diagnostic crisis resolution. However, the attitude of society toward handicaps in general and deafness in particular is also an important factor.

Societal Attitudes and the Crisis

There appears to be no doubt that society in general lacks, perhaps almost totally, knowledge about the deaf and deafness. As previously stated, early total deafness is a rare condition. Most deaf individuals belong to a subcultural group within which most marriages occur and most social interactions take place. This subculture has its own churches, clubs, newspapers, and sporting events. Although deaf individuals have frequent encounters with the "hearing world," it is possible for a hearing individual to go through life without ever encountering the "deaf world." Lack of interpersonal contact makes for ignorance.

Furthermore, lack of personal contact encourages fantasies about the unknown. Through the ages, even though decreasingly so, the deaf have been viewed as objects of scorn, pity and aversion (Rainer, et al, 1963). These attitudes merit further study, but the following discourse may provoke thought and suggest some research. Members of our society (that is, American society in 1971), frequently behave as if those who are like us are "good," whereas those who differ from us must of necessity be "bad." Americans, by reputation, play fair and invariably are willing to accept those who start out being different "if only they become more like us." For example, Americans after World War II were genuinely ready to love the French people, but became incensed when the French people refused to become like them in such mundane matters as American plumbing, cleanliness, etc. Those who insist on remaining different tend to provoke fear, dislike, pity, and avoidance – the very feelings described above. There are also those who cannot help being different – the young black child cannot turn white, the young deaf child cannot become hearing, the physically defective cannot become intact; in our enthusiasm, however, we often act as though we believe they too can become like us. And, unfortunately, we frequently accomplish the exact opposite of the desired effect. Our enthusiastic insistence may have contributed to the alienation of the black child with subsequent insistence on difference on all counts, and to the negative mutism of many deaf children, as well as to the alienation of the physically handicapped.

It may well be that many of us, in an attempt to bolster our precarious self-esteem, resort to devaluation of others who look, act, and talk differently. Our fears regarding our own normalcy may make us uncomfortable with those who are not "normal," i.e., who are different. Our fears regarding our own intactness may make us fear those who are not intact in some way. And in order to soothe our own discomfort and fear, and to raise a wavering self-esteem, we may try to insist on the conformity, the normalcy, the intactness of those who cannot conform or become what we look on as normal.

The early diagnosis of childhood deafness represents a crisis for the child, for his parents, for concerned professionals, and for society itself. Subtle but potentially harmful events occur to all the participants in the crisis, but these events are not foreordained; they are alterable. Parents' groups *can and have* made effective contributions toward necessary and practicable changes that will have a most beneficial impact on the deaf child.

The Deaf Child–Impact of Crisis?

The impact of the diagnostic crisis on the young deaf child is largely unknown, but other areas of child development research indicate clearly that both sensory deprivation and early parental distress may influence the child at an early age. What are practical ways of decreasing or altering such influences?

The distress of parents with a hearing handicapped youngster cannot be eliminated entirely. Attempts to consider the event "a blessing" have been effective in only a handful of cases. The distress can be partially alleviated through contact with truly informed medical and psychiatric professionals. Parents must find a constructive and non-threatening way to bring to the attention of the young physicians some of their own valuable information about deafness and their justified sense of urgency about prompt diagnosis. By suggesting simultaneous meetings with professionals, parent groups can help importantly to reduce the fragmentation of existing services for the young deaf child and the deaf adult.

Finally, parents can help themselves, their child, and society by redefining the meaning of "acceptance of your deaf child." This exhortation is frequently meant, or seen as meaning, "accept the child and make him non-different." Despite the obviously greater number of similarities between hearing and deaf children, some differences do exist. Attempts to hide them or to disguise them, make them spring forth more conspicuously and with greater vigor. Parents can contribute to an overall acceptance of those who are different from us, by free acceptance themselves of those features of deafness which make the child different. These include the use of hearing aids, acceptance of early manual communication, and a more relaxed expectation about the deaf child's speech efforts. Our ongoing work indicates that acceptance of these unavoidable differences promotes the development of more genuine similarities. We are accumulating evidence that this very acceptance enhances psychological adjustment, and accelerates cognitive development and spontaneous and joyful use of speech by deaf children.

FACTS AND FEELINGS ABOUT THE IMPACT OF DEAFNESS ON THE PARTICIPANTS OF THE DIAGNOSTIC CRISIS

	Child	Parents	Professionals	Society
FACTS	Defect *rare* (80/100,000; Rainer *et al.*, 1963) usually *invisible* and *irreversible* and able to *mimic* myriad childhood disorders Nevertheless, "reasonably prompt dx. before one year 50%, from one to two 40%, after two 10% (Fellendorf and Harrow, 1970)	Generally good diagnosticians 70% of parents 16% of grandparents are the first to suspect deafness(Fellendorf and Harrow, 1970) However, parents frequently given false diagnoses, reassurance, delays in diagnosis (Meadow 1968)	Physicians frequently receive a paucity of training about diagnosis, prognosis, treatment of deafness Physicians and other professionals receive inadequate training in helping *parents* of handicapped children (Fellendorf and Harrow, 1970); insufficient professional contact results in fragmented services	PAUCITY OF KNOWLEDGE ABOUT DEAFNESS
FEELINGS	Largely unknown area for fruitful research However, both sensory deprivation and parental distress may influence the child at early ages	Any or all of the following can be found in normal parents: shock, guilt, sorrow–both acute and chronic, denial, hope for miracles, idolizing of normalcy, temporary paralysis However, most parents excel at eventual adjustment	Physicians prefer to encounter illnesses which they know well, can diagnose and cure Physicians (as other human beings) dislike being bearers of ill tidings, admitting ignorance, superior knowledge of others, i.e. early parental suspicions	Ethnocentrism - or the feeling that those who are like us are good whereas those who are "different" can provoke fear dislike pity avoidance and those who are not easily understood or who cannot understand us provoke frustration

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THE FRUSTRATIONS OF BEING A PRESIDENT OF A STATE ASSOCIATION FOR THE DEAF

By JOHN B. DAVIS

Instead of writing solely about the problems of the deaf which have been discussed so many times before, I think it is appropriate that I write about my experiences as President of the Illinois Association of the Deaf. In this way I hope to give the reader a different outlook on the problems of deafness.

As President of the IAD for eight years I have had to live with the inertia of people inside and outside the association. I have had to learn to withstand disappointments in the failure to bring about needed advances for the deaf. I have also had to deal with the condescension of professionals who claim to know everything about deafness.

I have been unable to delegate many of my duties, which is highly unusual for the president of a large organization. The reason for this is the very low educational level of the majority of deaf people. Few deaf persons are knowledgeable enough about general community affairs to make contributions to their associations. In addition, few have the language skills necessary for effective verbal presentation of issues. They are, also, largely in the bottom economic category which reveals another problem. There are no deaf millionaires who could make cash donations. Consequently, a deaf association operates on a shoe string budget. The position of president is a voluntary one which means that whatever work there is involved in running the association must be done in addition to a full-time job. Due to the lack of money the IAD cannot support an office so the office exists in my home. I function as an office boy, secretary and file clerk. Often, important papers are either lost or misfiled, and important messages that need to be answered are overlooked.

The most difficult obstacle I have had to deal with and which all of the deaf face is that of communication. I must write letters instead of being able to phone. True, the typewriter-telephone is a new and God-sent media for the deaf but how many deaf people can use the typewriter? How many of them have the money to pay for the service? More often than not the handwritten letter is the only means of communication available. The most frustrating part is after the letters have been written they often remain unanswered because many deaf people shy away from any situation that would reveal their low educational level. There have been many times when I have had to travel long distances just to communicate an important message.

For the above reasons I went to the State Legislature for financial aid to set up my much needed office, from which a referral service could be established thus aiding State agencies for the deaf. This proposed expense by the State could be returned many-fold by lessening the duplication of work a State agency faces when confronted by a deaf client with multiple problems. I was met by several legislators who blandly said they were in sympathy with the "unfortunate" handicapped people. True, the State constitution in

Illinois forbids the State to donate money to a private corporation but State agencies can easily fund such an office by incorporating it into an agency. The blind have such a service in the Illinois Department of Children and Family Services. A Service Bureau for the Deaf in Wisconsin is supported by the same method. Another alternative would be to introduce a bill establishing a Commission for the Deaf, but to do this deaf people in the State must have "influence" with the legislature. Handicapping this idea is the almost total lack of political activity on the part of the deaf. Politicians listen to those who "deliver."

Saul Alinsky, who pioneered community organization techniques for minorities, began to gain attention from the "Power Structure" by creating a solid voting bloc, with rent strikes, mass parades, and so forth. Let me tell you, Mr. Alinsky would be stumped in trying to help the deaf minority. How could he communicate with the deaf? How could he use written materials when the average reading level of the deaf is third grade? He couldn't use the telephone with the deaf. He would have to make individual trips to contact a few deaf leaders to do something for the deaf. I'm saying this to try to give you a clear picture of the difficulties of working with the deaf.

I attempted to foster political interest by inviting a candidate for Lieutenant Governor to speak in my home. This affair was made known in advance at a club for the deaf having 200 members, at a N.S.F.D. division meeting, and at a 12-team deaf bowling league. Only 23 people showed up. My dreams of political aid were quickly dashed.

Not being a college graduate, I have often met with condescension from professionals at meetings. Sometimes such meetings do not have qualified interpreters who could give me enough information for me to be fully involved in the meeting. Many times I remain silent because I have not been able to keep up with the proceedings and I feel that my presence is a token gesture. Also, the pace of the conversation is often so rapid that by the time I have pinpointed who is speaking, that person has just ended speaking. The chairman of such meetings often forgets that there is a deaf person present. I recommend that at other meetings all professionals and parents connected with the deaf have their ears plugged to make them realize how difficult it is for a deaf person to keep up with the rapid oral communication. Seriously, the guidelines for the conduct of mixed (deaf-hearing) meetings developed in a Workshop held in Atlanta in 1971 should be widely disseminated and deaf participants in such meetings should encourage their use.

One sore spot in connection with public services is the almost total lack of manpower and adult education programs.* Everywhere we see fine workshops where the disadvantaged obtain trade and work skills. Not one deaf person can be found there! This is discrimination pure and simple. Dispensation of federal funds requires that civil rights clauses be included in its regulations. The excuse is always the same by instructors and program directors—"How can I communicate with the deaf?" or "I don't have the time to pay special attention to deaf students." The problem here is that there are no funds for interpreters. Special funding for interpreters is a must to enable deaf students to take part in these programs.

The aged deaf is a forgotten group. I have talked with low-income housing authorities and have received evasive replies. Finding the responsible person who may or could help group the aged deaf in one location is almost impossible in Chicago's vast bureaucracy.

*A Continuing Education Program, sponsored by Gallaudet College, Washington, D.C., is soon to be inaugurated.—Ed.

No matter where I go I am often contacted by deaf people with auto driving problems. A deaf person is handicapped before he learns to drive. He does not understand the rules of the road. He has trouble taking tests for a driver's license. When he obtains his driver's license his troubles, instead of diminishing, multiply because of his difficulty in obtaining insurance as required by the state. Auto insurance companies discriminate against deaf drivers by charging them high-risk prices. This, in the face of proof by auto driving safety experts who say deaf drivers make better drivers because of their sole reliance on vision for driving. However, of late, insurance companies are relenting in admitting deaf drivers at lower rates because of coming State regulations in insurance. Several attempts have been made by the State Legislature to bar the deaf from driving cars because of false conceptions of deaf drivers' abilities. One instance was an attempt by hearing aid companies to get the State to compel deaf drivers to use hearing aids as a requirement before drivers' licenses could be issued. All such attempts were defeated by an aroused deaf citizenry. Deaf people may be passive about many things but to take automobiles from them is the last straw.

The recent involvement of deaf people on all planning committees concerned with deafness has brought in more awareness of the needs of the deaf. The hiring of deaf adults as teachers' aides has made surprising changes in public schools by the increasing use of total communication. It does seem odd that for a long time oral professionals have preached that deaf children must learn to speak and read lips in order for them to integrate in the hearing world, but it has never happened. Now with the use of total communication we see increasing integration of deaf adults with parent and teacher groups. With the aid of interpreters deaf adults are speaking out in public more often.

As in the past the hearing have decreed what the deaf need but with miserable results. If improvements are to be expected, they will have to come from deaf leaders taking part in all programs involving deafness. I have noticed that in some federally-supported grants money received actually went for the support of the professionals themselves. The federal government should make it mandatory that all such grants must have deaf adults participating in them.*

I hope that my description of some of my experiences as IAD president will not frighten away people interested in working with the deaf. However, the increasing involvement of parents, teachers and professionals and, also, the increasing public awareness of the problems of deafness have helped make me more optimistic for the future of the deaf people.

*Mr. Davis may not be aware that in all projects involving the problems of deafness, the Social and Rehabilitation Service always urges sponsors to employ deaf persons to the extent that it is feasible and possible. We understand that most sponsors comply.—Ed.

CULTURAL ADDICTION,

Dennis L. Morrow*

We are all to some extent products of our cultural environments. When, however, an individual becomes both psychologically and physically dependent on some aspect of his environment such that it becomes the prime moving force in his life, he is then culturally addicted. Every person needs the support offered by his own culture or subculture, but when he begins to organize his entire existence around some single part of that culture, he is "ill" and needs professional help as surely as an alcoholic.

The only way to eliminate the problems inherent in cultural addiction of rehabilitation counselors is by the counselors and coordinators developing an acute self-awareness. As far as possible the aim of counselor education programs and in-service training sessions should be helping and, if necessary, forcing all rehabilitation counselors to "first know thyself." Self-awareness provides a basis for perception of how others differ from us and encourages the acceptance of these differences as real and meaningful.

*Quotations from First Place Award, Graduate Literary Awards Contest (1972), National Rehabilitation Association.

INNOVATION WHERE IT COUNTS THE MOST

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A typical and illuminating example of a long-standing disquietude about what is happening in the field of education is illustrated by the following excerpt from a column by Art Seidenbaum in a recent edition of the *Los Angeles Times:*

> "Public education seems to be enjoying a complete nervous breakdown. Some days I sit and read the latest school crisis and start longing for simple old stories about crooked aldermen and kindly ax murderers. We used to take crime for crisis and education for granted . . ." (1)

More or less similar utterances of disenchantment have been the rule for over a hundred years, since public education in America became free and universal. This is true partly because people are justifiably concerned about their schools, but – sadly – also because it is relatively easy to generate an outcry against public education. Schools, being public, are defenseless; historically, they have been made the scapegoat for the nation's ills. (2)

To counteract an unflattering and demanding public attitude school districts, universities, and rehabilitative agencies have initiated scores of innovative programs in recent years. Financed in the main by the federal government, the programs have been brightly imaginative in dealing with deprived children, adults, the handicapped, the poor, the browns, and the blacks. Our professional journals are filled with descriptions of promising new projects in improving reading skills, cognition, and understanding of the sciences, and in motivating youth and adults to higher levels of achievement and vocational performance.

Unquestionably many of these programs have produced meaningful results. Unhappily, however, not all of them stand the test of time. Each year sporadic new programs burst upon the scene like exploding Fourth of July rockets and vanish almost as quickly. They fail to "hang on" and seldom impart comprehensive learning experiences that achieve and sustain desired behavior patterns. They may be successful, for example, in dealing with one facet of a child's development, while failing the whole child. (3) A famous example: Project Headstart was introduced nationally not so many years ago to give culturally deprived preschoolers enriching experiences that would prepare them for formal schooling. With considerable fanfare, millions of dollars were spent on Headstart in scores of our larger communities. Soon, however, doubts arose. Evaluations failed to indicate significant differences between children who had participated in Headstart and those who had not, once they were two or three years along in the regular school program. Knowledgeable people point to a basic misconception: Children are not educated in school alone; they also are educated in the community, and in the home. (4) In fact they spend much more time at home and in non-school community pursuits than they do in school. And, for better or worse, the education they receive from the home and community is stronger, more lasting, more influential, and

more effective than the education and training they receive in school. The Headstart experience represents one of the most damaging mistakes in the history of American education, and the program continues to arouse public indignation.

A brief retracing of the past may help to provide an understanding of changes in educational responsibility that are immensely important to people in and out of education, to those in rehabilitation and social work, and to parents who also are involved in the learning process.

In the early years of our country, at the time the first settlers arrived, there were no schools and no formalized educational experience. All training was the responsibility of the family, of the elders who passed lessons down to the young. And, in general, youngsters received all the learning that was relevant to their survival. Gradually, however, as society developed, more fortunate families hired tutors, usually members of the clergy, to work with and teach their children. Next came private schools, many very small, that took the job of formal teaching away from the parents. Later the one-room school house came into being and soon free public education provided basic educational experiences not available at home. The school then assumed more and more the responsibility of formal learning for all children, and as the community came more and more to accept the school as the educative agent, parents had less and less direct influence on it. This influence decreased even more as school systems became increasingly complex. (2)

Today the public school system has evolved into a massive bureaucratic agency with too little input from the community it serves. While this educational complex contains methods for change and for upgrading, they often are too clumsy to permit maintaining curricula at a peak level of relevancy. Society has changed more rapidly than the schools. (5) As a result, a number of concepts that underly today's educational establishment can be challenged.

First, it is too often thought that education can be gained only by formal instruction. This belief is held as much in the area of special education as it is in regular schools. The standard curriculum of an elementary school includes courses in English, mathematics, social studies, science, and some of the arts, but because the program makes only marginal use of the community's resources it loses some of its meaningfulness. (9)

If education is the school's responsibility alone, and if the school's role is to provide a formal curriculum of academic subjects, well and good; one needs to look back no further than pre-World War II Germany, however, to see some of the results of strongly subject-oriented learning. Germany had developed the most sophisticated in-school programs in the sciences, languages, and mathematics that the world had known. Our popular magazines ran laudatory stories on how German school children could speak two or three languages, and knew more about physics in the sixth grade than most of our students did in high school. These dazzling advances boggled the minds of American educators. They put us to shame, or so we thought. We were green with envy. We chastised our schools. But with this kind of education the German people coldly and unsentimentally murdered six million fellow countrymen. This tragedy can be regarded only as an indictment of pure, unhumanistic, subject-oriented learning programs.

A second concept that can be challenged is related to how much can be taught in school. Traditionally, we have attempted to teach a body of knowledge. The difficulty here is that this body of knowledge has increased so rapidly and become so large that the

schools cannot possibly do the whole job. The world's knowledge doubled between the time of Christ's birth and the year 1750. It had doubled again by 1900, again in 1950, and again by 1960. (5) Consequently, it has become impossible to teach all that needs to be taught in a vacuum called a classroom. This responsibility must be shared with the home and with the community and its interest-related agencies, since children spend 2½ times as much time in these environments as at school. And, if home and community are not capable of giving children the kind of guidance and training they need, the school should take on the job of making the home and community more competent in this regard.

A third controversial concept is that schools are built for youth alone. School buildings have the facilities, equipment, and personnel to be potentially useful to people of all ages; to close 100 billion dollars worth of school buildings at four o'clock in the afternoon is false economy. School buildings do not belong to school boards, to teachers, or to the children – they are publicly owned. Using these buildings for learning purposes only six or seven hours a day is a horrendous waste, and surely suggests the need for schools to expand their responsibilities to work with all ages in the community. (6)

Until very recently U.S. schools for the deaf could claim no major departures from the established and well-starched pattern of over-all American education. In some ways the three evils mentioned above were even compounded in special education as a whole. If one asked, "How are deaf children educated?", there were three answers:

1. Deaf children were educated by the lack of understanding of their parents – parents who, in the shock of discovering their child's deafness, panicked and disintegrated. Uninformed or misinformed, they found themselves unable to communicate with their children and forced questionable values on them.

2. Deaf children were educated by the indifference of their communities, whose agencies did not always share common goals in the services they rendered, whose professionals of related disciplines were too little involved to see the whole picture, whose citizens understood little about deafness, and whose employers shunned the "risk" of hiring the handicapped.

3. Deaf children were educated by the overspecialization of the schools. This came about for several reasons. Local and state boards, overwhelmed by problems of finance, inner city difficulties, unionization of teachers, and other problems, relegated special education to a mediocre role in the total education program. Teachers, finding themselves isolated and excluded from the main interests of the boards and of the community, designed compensatory and remedial programs that did much for in-school learning growth, but which too often lacked the timeliness and richness of content that relates to community life.

During the 1971-72 fiscal year, the Social and Rehabilitation Service and U.S. Office of Education are spending over $100 million on research, demonstration, and training programs for the handicapped. Progress reports on programs dealing with deafness indicate that many are taking issue with the old order. (7)

The following program descriptions cannot fairly be called a random selection, neither can they be considered a complete list of innovative programs. They do, however, reflect cooperative, interdisciplinary thinking and the need for operational retooling. They are bringing rehabilitation and education of the deaf out in the open.

PRESCHOOL PROGRAMS FOR HEARING IMPAIRED AND/OR MULTI-HANDICAPPED CHILDREN (8)

Ten programs are receiving support from the Bureau of Education for the Handicapped through funds from the Handicapped Children's Early Education Assistance Act. They are located at: The Crippled Children's Treatment Center, Anchorage, Alaska; University of Illinois, Champaign, Illinois; Minnesota Department of Education, St. Paul, Minnesota; the Mt. Carmel Guild, Newark, New Jersey; Houston Speech and Hearing Center, Houston, Texas; University of Washington, Seattle, Washington; Rochester City Schools, Rochester, New York; University of Alabama, Birmingham, Alabama; Central Institute for the Deaf, St. Louis, Missouri; Bill Wilkerson Speech and Hearing Center, Nashville, Tennessee.

These programs, which seek to capitalize on the first five, and most sensitive years of a child's life, have common characteristics: They involve parents early in the learning process; they attempt to tie the helping disciplines together in a united effort; they bring the school, home, and community more closely together. Some examples of stated program objectives and methods are:

"To plan and demonstrate comprehensive services including diagnostic observation screening and selection, cooperation with public school readiness classes, parental-family education. . ."

"Parent involvement through teacher demonstrations, classroom observations, parent teaching, and discussion groups, to develop a pre-academic and academic program suited to individualized rate and style of learning of each child."

"To demonstrate a model process for involving family members in the direct education of their handicapped children; a model training program for staff and paraprofessionals from the community."

"To provide a preschool center for handicapped children to demonstrate use of systematic procedures . . . to enable each child to continue his education in appropriate community programs."

"To involve parents as teachers in the classroom, and to provide instruction and reinforcement at home . . . to provide continuous inservice training of professional staff and paraprofessionals to facilitate precise educational planning and professional growth."

"To stress parent involvement by seeking direction from them in terms of goals, programming, and staff . . ."

OPERATION TRIPOD (8)

(Funded by RSA and Sponsored by San Fernando Valley State College, Operation Tripod was held in Memphis, Tennessee, on April 21-24, 1971. Carl Kirchner was director.)

The long-range goal of this meeting, which attracted a total of 126 persons from 48 states, was to develop greater assurance of services for hearing-impaired individuals. The objective was to improve their employment potential. The more exciting feature was the project design: It brought together parents of deaf children and youth, rehabilitation

personnel, and deaf adults, for perhaps the first time on a large and informal scale, permitting each group to become sensitive to the viewpoints of the other.

The conference was perhaps the first opportunity many parents had had to meet face to face with deaf adults and the hard facts of the workaday world in which they live, and to rationalize their expectations for their own children. From another angle, it gave parents a running start on their children's future by enabling them to discuss realistic vocational goals with rehabilitation personnel. This particular objective is especially timely because, traditionally, rehabilitation people are likely not to come into contact with deaf youth until they are in their late teens.

Parents who attended the meeting have requested extension of the grant so that 10 regional meetings can be held over the next two years, affording more parents, more deaf adults, more rehabilitation personnel a similar opportunity.

TRAINING FILM SERIES IN TOTAL COMMUNICATION (8)

(Underwritten by the Bureau of Education for the Handicapped (BEH), Media Services and Captioned Films Branch. Western Maryland College is the contractor, and Dr. McCay Vernon directs the project.)

This developmental project is producing a series of films for preschool deaf children, their families, and professionals; the films are gauged to facilitate language growth, communication skills, and basic education in young deaf children. Although there may have been no empirical, long-range research to demonstrate the worthiness of liberalized methods in language development, the very fact that deaf students are leaving school with embarrassing deficiencies in language skills makes this project look promising.

PROJECT FOR THE UTILIZATION OF INTERNATIONAL RESEARCH (8)

(This project, whose full heading is "Utilization of International Research Through the World Congress of the World Federation of the Deaf," is supported by the Social and Rehabilitation Service (SRS) under the sponsorship of the National Association of the Deaf (NAD).)

A well-worn lament says that it takes 50 years for new research to find its way into wide practical use. This delay is particularly true at the international level where both distance and language constitute barriers. The NAD has received a grant to facilitate interchange of vocational rehabilitation research among professionals and world leaders in providing service to the deaf through the existing commissions of the World Federation of the Deaf. The NAD staff is now preparing for the next Congress which will meet July 30-August 7, 1975 in Washington, D.C.; the theme will be: "Full Citizenship for All Deaf People."

THE NATIONAL THEATRE OF THE DEAF (8)

(Supported by SRS with an additional grant from the U.S. Office of Education (USOE) for the company's Little Theatre group, the National Theatre of the Deaf (NTD) is sponsored by the Eugene O'Neill Memorial Theatre Center, Waterford, Connecticut. David Hays is the Administrator.)

Not long ago an attitude and opinion questionnaire was given to a number of college students at a midwestern university; these were students with no previous

exposure to deafness and its problems. The questionnaire, which contained sensible as well as nonsensical questions, included the following true-or-false item: "Deaf people eat more potatoes than hearing people." Not surprisingly many students answered to the affirmative.

The National Theatre of the Deaf demonstrates that, in addition to being full of potatoes, deaf persons can also be creative, talented, beautiful, loveable, entertaining, and capable of some of the highest quality theatre this country has had the privilege of seeing. Moreover, it would not be too far-fetched to say that the NTD, more than any other single effort, has developed a new public understanding of, and attitude toward, deafness. In the inhibited public mind it tends to separate deafness and deaf people from the United Way appeals and Give! drives, and alerts the ordinary citizen to realistic educational and vocational potentials of this group.

NTD productions, ranging from Sheridan to Chekhov to Lorca to Dylan Thomas, have been performed in theatres in the U.S. and abroad, and have been seen by some 70,000,000 people on TV. Its Little Theatre group of four actors play before school age children and youth with mimed and signed renditions of works by Ogden Nash, e. e. cummings, James Thurber. At first consideration, federal support for a theatre group may appear outlandish inasmuch as grants are designed for educational and vocational upgrading. NTD, however, by all counts, is highly educational.

CONFERENCE ON EFFECTIVE PARTICIPATION OF DEAF PERSONS IN PROFESSIONAL MEETINGS (8)

(This workshop, held in Atlanta, Georgia, March 17-19, 1971, was sponsored by the Department of Special Education and Rehabilitation of the College of Education, University of Tennessee, and supported jointly by SRS and the Bureau of Education for the Handicapped (USOE).)

Over 40 persons, half of whom were hearing-impaired, participated in this conference. Problems faced by deaf people were explored in large and small group meetings in which most of the participants could hear. Included were problems of communication, both receptive and expressive, encountered in speaking and signing; in using acoustic apparatus, public address systems, amplification, and visual media; in interpreting, in room and seating arrangements; and the like. In short, the sessions covered the "human engineering" necessary for deaf persons to be heard and understood, and to "hear" and understand the flow of words and ideas.

A deaf executive is no longer a rarity. During the past decade a gradually growing number have worked their way into professional ranks to match wits and wisdom with the hearing members of management. Concomitantly, they are more loquacious than in the past about problems and programs that affect them, and they are being heard with more than passing tolerance by people in the local, state, and national community who deal with questions relating to them. They have the opportunity to draw greater public interest and services to better meet the needs of the hearing-impaired, to get the community involved. This workshop sought to increase the impact of the deaf person's participation and to help him become a better salesman.

PROJECT DAWN (Deaf Adults With Need) (8)

(Supported by Adult Basic Education grant (USOE), and like Project Tripod, sponsored by San Fernando Valley State College under the direction of Carl Kirchner.)

This project was first carried on as a month-long workshop to indoctrinate deaf persons, chiefly paraprofessionals, in the organization and implementation of adult education programs. It has now enlarged its goal. It seeks to place one deaf person in each of the 50 states to serve as a volunteer liaison agent between the deaf community and the state ABE director, thereby extending the use of schools, other educational facilities, and personnel to the deaf community. Workshops this summer (1972) in Pittsburgh and Denver will seek to develop the necessary skills to bring adult education to the deaf at the grassroots level. This is a boot-strap approach in the sense that the deaf persons involved are assuming key leadership roles on a voluntary basis, with no remuneration – a fact which in turn emphasizes the great urgency they feel for more education for themselves and their communities.

THE NAD COMMUNICATIVE SKILLS PROGRAM (8)

(Supported by SRS, and sponsored by the National Association of the Deaf, under the direction of Terrence J. O'Rourke.)

The Communicative Skills Program is a nationwide project to develop and implement curricula in manual communication to improve the competence of rehabilitation counselors, psychologists, educators, social workers, vocational instructors, psychiatrists, and others whose work involves contact with deaf people. In so doing, it is breaking down barriers that far too long have separated deaf people from the helping professions. Pilot programs have been established in 11 cities, some of which have or are phasing out into adult education or other local agency sponsorship. In developing the program, schools, universities, community agencies, and the deaf "consumers" have worked together. The project is even more timely in view of the fact that the "Total Communication" approach is gaining ground in schools for the deaf.

CAPTIONED TELEVISION (8)

("Feasibility Study Leading to the Development of Captioned TV" is financed by BEH. Robert Root, State College, Pennsylvania, is principal investigator.)

This project is one of several significant innovations made possible by the alertness of the Media Services and Captioned Films Branch, BEH. It is leading to the development of a system wherein TV programming can be captioned and displayed on modified sets. For the nation's deaf population, such programming will fulfill the need for remedial instruction, and for current events, public service, and entertainment programming, thereby increasing participation of the deaf in the mainstream of society. The study has been appropriately assisted by representatives of all national organizations of the deaf.

THE NATIONAL LEADERSHIP TRAINING PROGRAM IN THE AREA OF THE DEAF (8)

(Funded by SRS and conducted at San Fernando Valley State College. Dr. Ray L. Jones is project director.)

The Leadership Training Program is now in its 11th year of operation. It provides a seven-month Masters-degree-level program to develop supervisory and administrative skills in education and rehabilitation programs. Both deaf and hearing students are enrolled.

The program is multi-disciplinary in design and includes both formal classes and extensive field experience. It has a distinguished teaching staff from the fields of

psychology, sociology, health-related services, special and rehabilitation education, and educational administration; a number of outstanding professional and lay leaders are invited to the college each year for consultation, lectures, and discussions. In addition to this broad-ranging exposure, leadership training classes have initiated enterprising projects in the Southern California area in community services, adult education, "integrated" learning programs, mental health, deaf-blind rehabilitation, and communications.

REGIONAL TECHNICAL AND VOCATIONAL INSTITUTES (8)

(Jointly financed by SRS and BEH, these programs are located at Seattle Community College, Seattle, Washington; St. Paul Technical Vocational Institute, St. Paul, Minnesota; and Delgado Community College, New Orleans, Louisiana.)

These three programs were intended basically to increase the choices in vocational training opportunities available to deaf people and consequently to improve their chances for employment appropriate to potential. Specific objectives included: To encourage existing vocational schools to accept deaf students, and to provide vocational rehabilitation and other public and private programs with more and better resources for serving them.

Apparently the three schools carried out a convincing demonstration. At last count, 38 junior colleges and trade and technical institutes throughout the U.S. had attempted, with minimal local, state, and federal funding, approximately to duplicate their programs in more or less modified approaches.

Services of interpreters, notetakers, tutors, and counselors help to make an enriching "integrated" post-secondary experience possible for many students who have heretofore spent most of their school years in isolated settings.

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NATIONAL TRENDS IN THE VOCATIONAL REHABILITATION OF THE HEARING IMPAIRED

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Definition

Through the years I have learned that it is better to define terms at the start, especially in the area of hearing impairment. I paraphase herewith from a paper[1] Mary Switzer and I wrote five years ago, making changes that new knowledge has brought to light.

In an average crowd of 600 people there is one deaf individual who circulates unnoticed unless he is spoken to, for he has no distinguishing visible feature that shows him for other than a normally hearing person. The ongoing National Census of the Deaf indicates the number of deaf men and women in this country is 450,000. The hard of hearing on the other hand number in the millions. They have an entirely different set of problems than the deaf and should be treated by different procedures.

A brief comparison of the deaf with the hard of hearing may clarify and reinforce the preceding statement. The hearing loss of deaf people is generally irreversible. It rarely yields to medical treatment by drugs, surgery, or prosthesis but is amenable, in approximate proportion to their availability in quality and depth, to training and adjustment services. Persons who are hard of hearing, however, can almost always be helped medically. Deaf people must use their other senses to receive information, while hard of hearing people can and do rely mostly upon their sense of hearing, however limited. Consequently, the hard of hearing population differs only in degree from the general population while deaf people stand apart psychologically and socially.

Many deaf people are without useful speech despite years of training. Many of them also have very limited language skills. They receive information mainly through their eyes. They impart information by combinations of signs, gestures, speech, and writing, although the large majority prefer signs between themselves and hearing persons who are masters of sign language. Most deaf people have normal strength, mobility and intelligence and strive for achievement within the limits society sets in response to their serious communication inadequacies. This then is the handicapping base of their disability. It is primarily psychosocial. It manifests itself in many ways, each of which is in turn an important life problem of deaf people; among these are under-involvement in the main stream of community life; limited sharing with fellow men; lack of acceptance among family, neighbors, and employers; and severe under-employment.

Deaf people are often described as a non-hearing cross section of the general population. Their characteristics have about the same range. However, there is a chronological factor which affects deaf individuals markedly. It is the age at onset of the disability. Whether the hearing loss occurred before or after basic language and speech patterns were established is of incalculable significance. The person deafened before acquiring these patterns, sometimes called the prelingually deafened, is obviously sharply disadvantaged in comparison to one who loses hearing at four or five years of age, and even more so, compared with one deprived at age six, eight or ten. Other factors being

equal, the earlier the onset, the greater the handicap. The increased handicap lies in the difficulty in acquiring communication skills, the gateway to knowledge and independence.

Another important communication asset is the amount of residual hearing and its usefulness. As a matter of fact, most deaf people have some degree of sound perception. For some of them, this perception may be helpful in certain aspects of speech production such as voice quality, rhythm, and so on. Others may be able to learn to distinguish from a few words to several hundred, thus reinforcing greatly their capacities for oral communication. This does not move deaf people into hard of hearing classification.

Trends in the Area of the Hard of Hearing

Despite our relative lack of movement toward meeting the vocational rehabilitation needs of the large hard-of-hearing population, important trends in which we are involved are underway. One of the more significant of these for vocational rehabilitation purposes is the self-evaluation and upgrading of individual and group performance that is characteristic of hearing aid dealers over the country. The National Hearing Aid Society is coming effectively to grips with the unique needs of the industry to which it relates.

Coming from many generations of medical practitioners, and having read family accounts of earlier years, I profess to see an emerging discipline in this industry that will stand the State vocational rehabilitation agencies in good stead. On this basis, a few years ago, the Rehabilitation Services Administration and the National Hearing Aid Society developed a formal statement of working relations which emphasized reciprocal referrals. And this is the name of the game for a public program. An activity of this kind cannot accomplish its mission without referrals. As we are able to exploit this agreement, referrals and consequently vocational rehabilitations of the hard of hearing should zoom in a few years from the 8,000 or so individuals aided in 1970 to as many as 50,000.

A second important trend in the hard-of-hearing area is the growing capability of the officials of the National Association of Hearing and Speech Agencies to serve communicatively impaired persons effectively, and to manage and maintain themselves as important community resources. Much of this advance has been achieved through a training program that the Rehabilitation Services Administration maintains at the Association. We anticipate even more pronounced results in the years ahead as basic needs are met and training action moves into broader areas.

Visibility

Increased visibility of work for the deaf within the vocational rehabilitation organizational structure provides cumulative evidence of the involvement of educators, deaf consumers, other professionals, and the voluntary sector. Government responds to demonstrations of interest and demand, as indicated by the Office of Deafness and Communicative Disorders – a division with co-equal status to all other Rehabilitation Services Administration divisions. The implications are far-reaching for significant improvement in the rehabilitation thrust on behalf of deaf people.

The often-voiced desire among professional and voluntary workers that Federal programs for the deaf be located at higher policy making levels is partially answered by

this happy development. Recent rekindling of this fire suggests, however, that more elevation is expected by deaf leadership so that all pertinent bureaus will have effective guidance in developing meaningful programs for deaf consumers.

Parallel to this advance is the greater visibility for service to the deaf within State vocational rehabilitation agencies. Statewide supervision of vocational rehabilitation services for the deaf and hard of hearing, and special counselors at strategic locations throughout the State, are now commonplace; this is as it should be.

Management

In the process of responding to a change in national administration, government activities reorganize to establish closer relationships with administration goals. We have been very much involved in recent years in developing planning skills to conform. Advantages of this kind of approach include the acceptance of appropriate program objectives generated by knowledgeable staff, establishment of priorities that relate to our fiscal capabilities, and receipt of some measure of assurance that we have operated in accordance with a schedule.

Another aspect of management re-direction is the well-known move toward decentralization of implementation. Thus, policies set in Washington will be carried out largely through the Regional Offices in collaboration with the State vocational rehabilitation agencies. This move has been viewed with more than a bit of concern by knowledgeable consumers and professionals because of their awareness that at present, relatively few staff members are qualified to make judgments and evaluate work in the deaf area. To compensate for this lack, we are arranging to establish next year a management organization composed of one person from each of our ten Regional Offices. This group will meet at least annually to consider program needs, identify feasible projects, establish priorities, and develop an action calendar.

We anticipate, of course, that deaf consumers and workers for the deaf will lend their knowledge and abilities in reinforcement of these actions not only when called upon but also in the sense of outreach and advocacy. In other words, we expect that our readers will be invited to share in selected activities. However, do not wait. Be in touch. Communicate your availability and interest to your State vocational rehabilitation agency.

In the same vein, we frown upon any program planning and implementation that does not include full deaf consumer involvement. Fortunately, we can reflect with some pride upon our record of insisting that deaf consumers be involved every step of the way. In the light of our rewarding experience with this premise, we are truly amazed to come across government, private, or other type of planning and implementation which has by-passed the deaf consumer. Such oversight dooms the activity in question to failure or, at least, falling far short of achieving its potential.

Community Development

An important and refreshing trend that has been particularly noticeable this past year has been the highly satisfying recognition of community responsibility. Examples include the many splendid letters that have been sent to the Administrator emphasizing the need for a committee on the deaf to parallel the committee on the blind, and urging

remedial action. These communications have had a cumulative effect, and serve to keep our top people aware that the needs of deaf people merit careful attention.

Red-letter examples of community involvement were the informal meetings held by deaf leadership with the Commissioner of the Rehabilitation Services Administration, Edward Newman, on May 10, 1971, and with the Administrator of Social and Rehabilitation Services, John Twiname, on February 4, 1972. These sessions were the forerunners of other community input to our top leadership that we have been instructed to, and will, organize. It is quite possible that meetings of this kind will lead to a formal advisory committee on deafness.

Rewarding parts of our work include the fine performances by the voluntary and professional organizations with which we are deeply involved. The Registry of Interpreters for the Deaf has increased enormously in effectiveness since its establishment just a few short years ago. We are aware of real need for it to move forward organizationally to new levels. The RID must become and remain a *national* organization that relates as effectively as possible to the needs of deaf people for a secure communication channel to the greater community, with all of its ramifications.

We must be very realistic about the true communication needs of our deaf population. We must avoid complacency with the limited input and output of thinking that is so common among deaf people in relation to our complex social structure. It is very unfair to, and a very serious deprivation of the mass of, deaf people to hold them to standards that can be achieved by only the very few. Accordingly, it becomes an obligation of each of us to lend fiscal and professional support to the RID. We must become involved as individuals, as institutions, and as organizations.

The newest member of the organizational family in deaf work, Professional Rehabilitation Workers with the Adult Deaf, is thriving. The two most recent conventions – in Rochester, New York, and Washington, D.C. – drew over 300 and 400 participants, respectively. They proved to be stimulating meetings that "tell it like it is." We anticipate and need very much the growing contribution that this multi-discipline arena provides for workers with and for the deaf. We hope that more of you will become involved. The PRWAD now has a home office in Silver Spring, Maryland, in the building owned by the National Association of the Deaf. We expect that the next year will see the beginning of State and local units relating to the PRWAD, thereby providing the essential grassroots involvement that is the foundation for organizational effectiveness.

Deafness in the 70's

A major activity already launched is a project to generate department-wide and nation-wide interest in, and concern for, improving the circumstances of deaf people. It has been labled "Deafness in the 70's." Gallaudet College is collaborating with the RSA in organizing and conducting it. The program will be conducted under the Secretary's Priority Number 7, the disabled and handicapped who are socially disadvantaged, of which RSA Commissioner Edward Newman is the Department chairman. Through this mechanism all of the pertinent HEW agencies will be fully involved.

The first step was an input conference convened on May 31 and June 1 and 2, 1972, at Gallaudet College. It involved 37 agencies and organizations. They presented information about their services and aspirations for deaf people. The second step will be

carried out by an executive committee that will use the input of this first conference to develop a format and an agenda for a large-scale meeting in the fall, something on the order of, and relating to, the historic Las Cruces series, and building upon the challenging Tarrytown recommendations.

Legislation

Many readers may know about H.R. 8395, the Vocational Rehabilitation Amendments of 1972. There was much excitement and hope regarding Title III B which would have required each State to develop a minimal plan for vocational rehabilitation services to deaf clients; the bill earmarked Federal grants for this purpose. Unfortunately, from my view, this provision, as well as a parallel provision for the blind, was lost in the committee revision of the bill. Apparently, administrators and legislators continue to be concerned that if a single category of disability is singled out, similar requests will be made for all other categories. It is my belief that this thinking is unrealistic in terms of what is handicapping about each disability, nevertheless, it does persist and must be considered.

On the positive side, it is exciting to know that Comprehensive Rehabilitation Centers for Deaf Youths and Adults are a part of the House-approved bill that is now before the Senate Committee on Labor and Welfare. The language of H.R. 8395 would authorize the **establishment and operation** of such rehabilitation centers for deaf youths and adults, and also would provide for professional training, research, and public information functions. Clearly, this legislative proposal has tremendous implications for improving the socio-economic circumstances of the lower half of the deaf population, thousands of whom now have no really effective service opportunity. A very large and persistent gap in our total national resource capability for deaf people would be closed by this legislation. We are hopeful.

Outlook for 1973

Our basic objective for fiscal year 1973 is to increase the number of deaf rehabilitants by 15 percent. This means we shall strive to rehabilitate about 9,000 deaf persons next year, as compared with the estimated 7,700 deaf persons that will be rehabilitated this year. We have in truth come a long way from the annual 800 or so deaf rehabilitants of the late 1940's. This statement takes on even greater significance when one realizes that on any given day in fiscal year 1972, more than 17,000 deaf persons were receiving some level of vocational rehabilitation service.

Without regard to possible legislative developments, our plans for 1973 will interest you and, we believe, will enlist your support. In addition to the previously mentioned regional plan which should contribute materially to more deaf rehabilitations, we are initiating development of a mechanism whereby the Federal government would become a model for the employment of deaf people. Informal preliminary discussions with the Civil Service Commission and others have brought into focus several factors that will be our primary concerns in this project.

At least one of these has vital significance for all who work with the deaf – educators, rehabilitators, voluntary workers, family, friends. It is the ever present need to improve materially the capabilities of deaf people so they can respond

appropriately to the demands of Federal employment situations. In other words, in our homes, schools, and community activities, we must do a much better job of training deaf people to function at levels that truly reflect their native abilities. State vocational rehabilitation agencies must provide much more realistic and appropriate training and developmental services for the same general objective – greater ability to function in accordance with potential.

Another important action scheduled for fiscal year 1973 is the development of a model State plan for the vocational rehabilitation of the communicatively impaired. This will be a program that a State vocational rehabilitation agency can adapt to its own circumstances, thereby improving its capability for serving deaf people as well as others who are communicatively disordered. Naturally, schools and other community services for the deaf will be singled out as important elements in any effective State plan for vocational rehabilitation of deaf people. I am sure that our readers will be ready and responsive.

Another large activity that we expect will be funded for 1973 is a pattern of regional meetings, following up on the Memphis TRIPOD meeting, to discuss the role of parents in the vocational rehabilitation process. California State University, Northridge (formerly San Fernando Valley State College), will manage this program. It is anticipated that five regional meetings will be held in fiscal year 1973 and five in fiscal year 1974.

The general pattern is that each State will send a team to its regional workshop. The team will consist of parents, rehabilitation workers, educators, and deaf consumers. For a given State, it will be selected by the State vocational rehabilitation agency in collaboration with the Regional Office. We assume that some of you readers will be very much involved in this important activity.

Conclusion

Our regular day-to-day activities continue to grow. We have no illusions about mastering the challenge or taking a breather. We find reassurance, however, in the proven fact that with the apparent readiness of voluntary, private, and public organizations over the country to backstop and respond in many ways, we shall get the job done.

A DREAM THAT CAME TRUE: 1930-1965

Dreams do sometimes come true. Establishment of the National Technical Institute for the Deaf in 1965 marked the fulfillment of a vision which Peter N. Peterson, then a teacher in the Minnesota School for the Deaf, described in some detail more than 40 years ago. Readers of this book are familiar with the 1965 reality; the 1930 account of the dream may be of interest.

Mr. Peterson's article, titled "A Dream – and a Possibility," appeared in Vol. 1, No. 1 (May 1930) of *The Vocational Teacher.** The following reproduces most of Mr. Peterson's article:

It has been said that industrial training should be the most important and outstanding feature of the education of the deaf, and that such academic instruction as is given should be related directly to the problems presented in the industrial training work. Here speaks a bold crusader and a reformer who is sure to encounter much opposition from many quarters. But so were the early oralists opposed, and still are, by the combined method advocates, yet the oral method is gaining ground all the time.

There is no denying that there is room for improvement in vocational training. Better results than now obtain can be achieved without lowering the academic standard, and without being ultra radical.

To this end an important requisite is a fair and just division of time between the schoolroom and the work shop. In almost all the schools the shops are empty in the forenoon. In the afternoon all the pupils are in the shops, and they are so crowded that there is not room to turn around. One instructor is expected to teach twenty-five boys, more or less, ranging in age from thirteen to twenty-one years, all at the same time and in one room of limited size. He is supposed to follow a definite course, arranged without due regard to the several abilities of the students. He may have half a dozen repair orders on hand, and they must be rushed. Boys may have to be sent to other buildings to do repair work. Under such conditions the best of machines and appliances and tools can not be used to the best advantage.

The Minnesota school has an ideal arrangement in this respect. The pupils are grouped into three equal divisions, A, B, and C. In September A is in the shops from 8:00 to 10:00 A.M.; B from 10:30 to 12:30; C from 2:00 to 4:00 P.M. Divisions that are not in the shops are in school. At the beginning of a month all change time, so that those who

*Mr. Peterson's article was brought to our attention by Dr. Robert Frisina, Director, NTID, who suggests "For historical reasons you may wish to consider for publication in the first edition of DEAFNESS an account of Mr. Peterson's lucid plea for a 'National Technical Institute for the Deaf;' a plea answered by the Congress of the United States some 35 years later in the form of the 'NTID Act,' which was signed into law by President Johnson in June 1965." Dr. Frisina, of course, errs in that this is the second issue of DEAFNESS, but the first to contain contributed papers. NTID, with an enrollment of approximately 350 students, offers vocational/technical training leading to B. S., A. A. S., and B. F. A. degrees. Certificates are also awarded. – Ed.

went to the shops at 8:00 the previous month now do shop work in the afternoon, and so on from month to month. The first-year pupils do not rotate because they do no shop work.

By the employment of this system there are pupils in the shops at all periods of the school day and the shops are not overcrowded. The classes are not too large and unwieldy. It is possible for the instructor to keep all the pupils busy and to maintain order. The pupils do no outside repair work of any kind.

There are those who sweepingly condemn all trades taught in schools for the deaf today as being out of date and therefore of no practical value. Nevertheless, linotyping, printing, and woodwork in its various branches are still holding their own, and will do so for many years to come. Many deaf workers are profitably employed in these crafts, perhaps more than in any other callings. What else to teach will be determined by those in authority and they, in turn, will be guided by local conditions and demands, and by home environments of pupils. It might be folly to operate a shoeshop in one school, yet in another it might prove the most valuable of all. To try to keep abreast of the times with modern machines and to teach modern industrial occupations in this machine age is simply impossible. To do so would bankrupt any state. The basic materials in the industrial world today are metal, stone, cement and gravel, wood and textiles. To this might be added leather and rubber.

Wood does not occupy the place it did a generation ago, but it is safe to keep the good old cabinet shop going for awhile yet. But what could we make in our school shops out of steel that would be useful and practical? Very little, indeed.

Gallaudet College is setting the standard for the academic department in schools for the deaf. That standard is being raised from year to year. Were it not for that, the purely literary attainments of graduates would not be anywhere near where they are. Every school is ambitious to send some of its graduates to Gallaudet. That is perfectly right and very laudable. The industrial department has no such, or any sort of standard to go by. It has no fixed star to which to hitch its wagon, except as the superintendent or instructors select one. A pupil is graduated when he has finished the course and passed the literary examinations. His efficiency or inefficiency in the shops is not considered at all.

Some one may counter by asserting that a pupil who can pass the literary tests could pass the industrial requirements with even less difficulty. Granted. But there are pupils in the B grades whose shop work is superior to that of the A pupils and when that happens he should be given credit for his motor activity and industry by elevating his average to within the reach of the coveted diploma.

Ideal industrial education for all the deaf is a long way off, although much can be done, and is being done, by schools that have generous legislatures and industrially minded superintendents. But day schools and residential schools that have very limited appropriations are necessarily handicapped.

A National Technical Institute for the Deaf, located at the center of population in a large manufacturing city, is what deaf young America needs more than anything else. It would be a complement to Gallaudet College, and on a par with it in usefulness and influence. It would give all the deaf who wanted it a practical education that would lead to bread with butter spread thick upon it.

A dream, you say. A wild, fantastic dream! Perhaps so. But many a dream does come true, and this dream is not so impossible of realization as it looks at first sight. Possibly it might be quite easy. All we need is a Moses to lead us through the wilderness of experimenting, with you and I and all the other deaf people in the country, the educators of the deaf, their friends and our friends, and all other interested parties to back him up.

Good old Uncle Sam has many demands on his money. It would take years of strenuous work to induce Congress to establish a school of this kind and finance it. Much money would be needed for "lobbying" and that money could not be raised among us. The Carnegie Foundation, the Rockefeller Foundation, the Guggenheim Foundation, and other trust funds created for the welfare of humanity are all hedged in by rules and regulations, and would probably not be available for the purpose, so we must turn to philanthropists with means at their command, and induce them to open their hearts and their purses for the good cause.

There is hardly a school or college of a private nature in America that is not endowed. "Homes," hospitals, churches, and organizations of all kinds have endowment funds to assist them in their work. Some are immensely rich. The deaf are not endowed with one penny excepting in the case of one or two homes for the aged.

It is said there are twenty-four people in America with average incomes of $10,000,000 a year, and about the same number with half that income; upward of 400 people with annual incomes of a million; and 42,500 millionaires besides. Many of them are philanthropically inclined, and give much for benevolences and the public good. It should be possible to raise a trust fund from among them sufficiently large to establish and maintain a technical school of high standard. One single man, if properly approached by the right party, might be willing to write a check for a cool ten million dollars, more than enough to perpetuate the enterprise for all times.

Recent newspaper dispatches announced that Henry Ford is ready to spend $100,000,000 for the technical education of American youth, and as much of his time and energy as necessary to carry out the project. He is convinced that this kind of education is of the greatest necessity. He proposes to make the Edison Institute of Technology at Dearborn the nucleus around which his educational work will center.

Would it not be possible for the deaf to get a slice of this huge sum? Have not the deaf in America one friend who is willing and capable to make at least an effort in their behalf? The deaf have done their part to build up Mr. Ford's fortune. He might be glad to do something for them.

A trust fund of ten million dollars. Ten acres of land at the outskirts of Detroit. Several buildings filled with modern machines, appliances, tools, material; school buildings, dormitories, service building, gymnasium, recreation hall, library, garages, ball field, tennis courts, trees, shrubs, flowers. A director with a twelve thousand dollar a year salary, a staff of competent instructors, five hundred students.

A National Technical Institute for the Deaf.

A dream, yes, and a possibility.

SOME INTERESTING DEFINITIONS

The *Interprenews,* published by the Registry of Interpreters for the Deaf, in a recent issue has listed some definitions that may be of interest to professionals who work with deaf people. Definitions marked with an asterisk were taken from *Interpreting for Deaf People.*

DEAF PEOPLE–Persons whose hearing losses are so severe that they cannot fully understand intelligible speech, with or without a hearing aid. Not to be confused with the hard of hearing, who, with or without a hearing aid, are able to understand speech. Terms like 'deaf and dumb,' 'deaf mute,' and 'deafie' are objectionable to deaf people.

DEAF COMMUNITY–As defined by the Council of Organizations Serving the Deaf, "the 'deaf community' today includes not only deaf persons, but also audiologists, social workers, rehabilitation counselors, educators, ministers, psychologists, interpreters, and other professionals in various disciplines, parents of deaf children, brothers and sisters of deaf persons, and children of deaf parents."

LOW VERBAL DEAF–Deaf persons with minimal understanding of a language system. The term is considered offensive by some and is replaced more accurately by 'language deprived,' 'language deficient,' 'language handicapped,' and 'people with minimal language skills,' each with varying degrees of acceptance.

LANGUAGE OF SIGNS*–In strict usage, an ideographic language which uses manual symbols apart from the manual alphabet. In common usage, the language of the deaf in which both manual signs and fingerspelling are employed.

INTERPRETING*–(Often used to indicate both interpreting and translating as well as the reverse of both.) An explanation of another person's remarks through the language of signs, informal gestures, or pantomine.

TRANSLATING*–A verbatim presentation of another's remarks through the language of signs and fingerspelling.

SIGNED ENGLISH–ASL signs grouped to conform to the grammatical structure of English. Abbreviated 'Siglish.'

MANUAL ENGLISH–Signed English with additional signs to indicate number, tense, and various verb forms.

SIMULTANEOUS INTERPRETING*–Simultaneous use of the language of signs and silent oral presentation in interpreting.

SIMULTANEOUS METHOD*–A method of training or educating a deaf person through use of *both* manual and oral methods simultaneously.

TOTAL COMMUNICATION–A philosophy in the education of the deaf in which are utilized any and all available forms of communication–including child-devised gestures, American Sign Language, fingerspelling, speech, speech-auditory aids. (Frequently confused with simultaneous interpreting.)

ADULT EDUCATION FOR THE DEAF--A RATIONALE

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Education is probably the closest thing we have to an American faith. We believe that through the educative process the social problems of our state can be reduced; the economic health of our nation can be improved, and the political promise of democracy can be realized... Not only have we looked upon education as the great social panacea, we have also regarded it as the great ladder for individual improvement.[1]

In this philosophy lies the great drive behind American educational efforts. On this cornerstone the whole edifice of public education in the United States has been built, developing through the levels of elementary, secondary and higher to adult education.

Of great significance is the comparatively late but vigorous development of adult education. Now widely accepted is the truism that the nation which places all its educational resources on the training of the young is doomed to failure.[2]

Adult education is a wide and varied movement in our culture. At its narrowest, it is a chronological identification of one segment of a lifetime of learning, identified by the age and maturity of the person engaged in its processes. Or, adult education may be said to differ from that for the young in that it emphasizes a cooperative process of shared learning rather than transmission of specific knowledge and development of basic tools and techniques. This idea is based on four assumptions having to do with areas of difference between children/youth and adults as to self-concept, experience, readiness to learn, and orientation to learning.

In practice adult education reveals many facets. It can be evening high school, trade school, or vocational school. For some, it is relief from boredom through any or all of arts and crafts classes, concerts, and lectures. Much adult education is devoted to completing college and university degrees or to keeping abreast of the fast enlarging field of knowledge in one's specialty. For a large number of people, adult education is much more basic—it is learning to read and write. And yet, the possibilities presented by adult education are not exhausted.

In whatever form, adult education is a vital force that has been under way for many years. Its roots go as far back as Aristotle who believed that certain subjects could only be taught to and understood by adults because of their experience and maturity. In more modern times adult education began in England in the late seventeenth century with the Sunday school, which originally was formed to teach adults to read.

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1. Delmar T. Oviatt, "Greetings from San Fernando Valley State College," in *A Report on the Conference for Teachers and Interpreters in Adult Education Programs for the Deaf*. Henry O. Bjorlie, et al, eds. (San Fernando Valley State College, Northridge, California, March 19, 1966), p. 2.

2. National Association of State Universities and Land-Grant Colleges, *Guidelines for Developing an Extension Education Program* (National Association of State Universities and Land-Grant Colleges, n.d.), p. 3.

In the United States, adult education in the public schools started as early as 1823; even before this, however, adult education was recognized as a legitimate field of endeavor by still other segments of our culture. During its history adult education has been offered through churches, social agencies, government agencies, proprietary schools, private clubs, labor unions, and a host of other channels.

Recently adult education has been undergoing radical change. It has traditionally been thought of as supplemental. That is, the fundamental knowledge needed for life was absorbed as a youth with additional education being devoted to making up for deficiencies that became evident in later years. Indeed, until the social order began to change so swiftly, it could be assumed that much of what was learned as a youth would be useful for a lifetime. The whole field of education, however, has been undergoing what amounts to a revolution from its focus on the child and the youth to the concept of continued learning–learning as a life-long process. As a result, adult education has progressed from privilege, to hobby, to necessity.

> *The new world requires a new purpose for education–the development of a capacity in each individual to learn, to change, to create a new culture throughout his life span.*[3]

No one today seriously questions the need for continuing education. The very meaning of education is acquiring skills for adaptation to the new requirements of human growth and development; and programs have grown in response to the demand for them. For example, in one small area of the field, that of adult basic education, enrollments increased from approximately 38,000 to more than 450,000 in the four years from 1965 through 1968.[4] The whole education procedure is geared to the recognition of the fact that, more than any other single factor, the level and scope of the education received determines the level of success which one may expect to achieve in later life. This principle seems to hold true no matter how one chooses to measure success.[5]

When, however, one compares the educational expectations and opportunities of the general hearing population with those of the deaf community, it is obvious that double standards exist both in aspiration and in access.

> *Education of the deaf in the United States is quite advanced in terms of world performance. On the other hand, it is seriously underdeveloped in terms of the needs of deaf people and their potentialities.*[6]

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3. Malcolm S. Knowles, *Higher Adult Education in the United States* (Washington: American Council on Education, 1969), p. 23.

4. National Center for Educational Statistics, *Adult Basic Education Program Statistics – Students and Staff Data – July 1, 1967, to June 30, 1968,* United States Department of Health Education and Welfare, Office of Education, Doc. No. OE-13035 (Washington: U.S. Government Printing Office, June 1969), p. 4.

5. Corbett Reedy, "Keynote Address," in *National Conference for Coordinating Rehabilitation and Education Services for the Deaf – Proceedings,* New Mexico State University, Las Cruces, New Mexico, November 6-9, 1967 (Washington: U.S. Department of Health, Education and Welfare, Rehabilitation Services Administration, Social and Rehabilitation Service), p. 5.

6. Mary E. Switzer and Boyce R. Williams, "Life Problems of Deaf People," *Archives of Environmental Health,* 15 (August 1967), pp. 251-252.

The Babbidge report, that benchmark review of education of the deaf, was unequivocal in its assertion that, by and large, education programs for the deaf are not succeeding.[7] The goals of education of the deaf are the same as those accepted for education generally–to develop the talents of the individual to the fullest extent, to prepare him or her for responsible citizenship, and to offer stimulus and opportunity for cultural and social enrichment. Yet the deaf person, whose needs are enormous, is shortchanged. He is shortchanged through our failure both to solve some of his basic problems of language learning, and to develop more systematic and effective programs for educating the deaf at *all* levels.[8] The deaf person suffers not only from his handicap, but also from restrictions resulting from a limited education.

What does it mean to be deaf? How is deafness defined? The deaf are those in whom the sense of hearing is nonfunctional for the ordinary purposes of life. Although straightforward, this definition is misleading because actually normal hearing and total deafness are two ends of a continuum that cannot be dichotomized neatly and with certainty at any point.[9] The description of the deaf person is further complicated by the presence of several variables that may interact with each other to varying degrees. Some of these are: (1) Degree of hearing loss, (2) age at onset of hearing loss, (3) possible existence of other handicaps, (4) method of communication used by the deaf individual, and (5) the deaf person's attitude toward his deafness.[10]

Deafness imposes immense hardships on the learning processes of the individual. Roman law, which defined people according to their capacity for instruction, classified the deaf with the fool and the mentally retarded, and exempted them from the ordinances of the law.[11] The most basic problem faced by the deaf person is that of isolation.

> *The deaf are usually more unfortunate than the blind, because the loss of hearing isolates them almost completely from others.*[12]

Consider the burden that communicative isolation places on the acquisition of information–"education," if you wish. The hearing child is bombarded with sound from the moment of birth. Through exposure to sound over and over in meaningful situations,

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7. Advisory Committee on the Education of the Deaf, Homer D. Babbidge, Chairman, *Education of the Deaf – A Report to the Secretary of Health, Education and Welfare* (Washington: U.S. Department of Health, Education and Welfare, Office of the Secretary, March 1965), p. 25.

8. *Ibid.*, p. xv

9. L. D. Hedgecock, "What is Deafness," in *Workshop for Baptists on Deafness and Rehabilitation*, College of Education, University of Tennessee, Knoxville, Tennessee, August 16-19, 1965 (Washington: U.S. Department of Health, Education and Welfare, Vocational Rehabilitation Administration), p. 43.

10. Babbidge Report, pp. xxvi-xxvii.

11. S. Richard Silverman, "Behavioral Research Problems in Deafness," in *Research on Behavioral Aspects of Deafness*, Proceedings of the National Research Conference on Behavioral Aspects of Deafness, New Orleans, Louisiana, May 1965, Institute for Research on Exceptional Children, University of Illinois (Washington: U.S. Department of Health, Education and Welfare, Vocational Rehabilitation Administration), p. 4.

12. Steven K. Hough, "Challenge of Psychiatric Social Work with the Deaf," *Journal of Rehabilitation of the Deaf*, Volume 3, Number 4 (March 1970), p. 10.

the normal child acquaints himself with his world and with his place in it. Communication is effortless and a part of the ebb and flow of everyday life.

Communication with the deaf child is quite a different matter. The limits placed by the hearing loss on communication have various results. There is a retardation of personality development and a delay in social maturation. Additionally, there is the problem of delayed acquisition of verbal language and a failure to acquire an accurate mental model of the spoken language.[13] The deaf child not only battles immaturity, but he faces the task of education with a basic lack in the principal vehicle to be used—that of language. The implications of these results for education of the deaf are staggering; and the deaf adult bears the scars not only of his physical handicap but also of the difficulties which the loss of hearing imposes on his social and cultural development.

So great is the effect of deafness on the education of the individual that despite dedication and many years of hard work today's system of education of the deaf leaves a substantial gap between the attainments of deaf children when their secondary education ends and those of hearing children generally.[14] A survey of children in schools for the deaf in 1920 concluded that the deaf were about five years academically retarded. Now, many years later, even for the "cream of the crop," it is clear that not much significant progress has been made.[15] Recent research revealed that 30% of deaf students sixteen years of age or older were functionally illiterate; 60% achieved a grade level of 5.3 or lower; and only 5% were rated tenth grade or better in achievement.[16]

What does all this mean in the reality of deaf adulthood? All generalizations (including this one) are, to a degree, fallacious, but certain characteristics do appear to stand out as common to a large proportion of the adult deaf population.

> *The rank and file of the deaf population represents a seriously disadvantaged minority group. Because the handicaps of these persons stem from a physical condition rather than from ghetto living does not make them any the less disadvantaged. They too suffer social isolation, vocational discrimination, experiential deprivation, scholastic stunting, and all the attitudinal biases that society can inflict through blind ignorance.*[17]

Studies show an obvious relationship between hearing impairments and the level of family income and educational attainment.[18] A survey of young deaf adults has revealed that: (1) A very high proportion of young deaf adults are employed in unskilled or

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13. R. Orin Cornett, "Cued Speech," *Hearing*, Volume 25, Number 12 (December 1970), p. 370.

14. Babbidge Report, p. 22.

15. Edgar L. Lowell, "Higher Education for the Deaf," in *Workshop for Baptists on Deafness and Rehabilitation*, p. 30.

16. McCay Vernon, "Deaf Not Dumb," in *Listen to the Sounds of Deafness*, Edith Miller and Ernest L. Bentley, eds. (Silver Spring, Maryland: National Association of the Deaf, May 1970), p. 15.

17. Rehabilitation Research Training Center for the Deaf, *Progress Report No. 4*, Edna S. Levine, Project Director (New York: Rehabilitation Research Training Center for the Deaf, New York University, October 1969), pp. 214-215.

18. National Center for Health Statistics, *Characteristics of Persons with Impaired Hearing – United States – June 1962-June 1963*, Public Health Service Publication No. 1000 – Series 10, No. 35 (Washington: U.S. Government Printing Office, April 1967), p. 7.

semi-skilled occupations; (2) the mean wages received by young deaf adults are much lower than for the hearing; and (3) their unemployment rate is much higher than that of the general population.[19] Babbidge has observed that five-sixths of deaf adults work in menial jobs, as contrasted to only one-half of the hearing population.[20]

When the deaf person is employed in other than manual labor, the chances are that he is still underemployed in terms of his innate potential. Although educational opportunities are limited, the intellectual capabilities of deaf people are proportionally the same as those of the normal population; however, the undertraining of the deaf, and the underdevelopment of the social and vocational skills of deaf youth and adults, are so serious that many can aspire only to marginal employment.[21] They are static in job development, job mobility, and earnings.

Employers find, for example, that very many deaf people cannot properly complete an application for employment; they frequently make strange sounds when attempting oral communication; they often depend on others; they tend to lack social skills; many appear naive and immature; and that when employed in a group of hearing people, they take longer to train and require more supportive personal and work-related counseling than most other employees.[22]

The average deaf person often has little understanding of the ordinary facts that a hearing person takes for granted.

> *The deaf person is deprived of the information channels of radio, television, telephone, and even time-of-day conversations because of his unique handicap. His education often limits his reading. He hesitates to ask questions of, and avoids conversations with someone he does not know, and often with those he does know for fear of misunderstanding.*[23]

Quite apart from the characteristics of many deaf adults, there are very important basic trends in business and industry which indicate that adjustment to the world of work is becoming more difficult for the deaf person.

> *1. Business is becoming bigger and more centralized, making it more difficult to deal with people on an individual basis, with the result that jobs formerly available to the deaf are being closed.*
>
> *2. A high school education is increasingly a requirement for entry into jobs.*

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19. Edmund B. Boatner, "The New England Survey of the Young Adult Deaf," in *Proceedings of a National Workshop on Improved Vocational Opportunities for the Deaf,* Joseph T. Ott, ed., University of Tennessee, Knoxville, Tennessee, October 18-22, 1964 (Washington: U.S. Department of Health, Education and Welfare, Vocational Rehabilitation Administration, June 1965), p. 68.

20. Babbidge Report, p. xv.

21. Reedy, "Keynote Address," p. 8.

22. Norman H. Silver, "Employment Practices and Trends in Industry," in *New Vistas for Competitive Employment of Deaf Persons, Journal of Rehabilitation of the Deaf* Monograph (February 1970), p. 10.

23. Robert Hoye, "How Your Insurance Is Affected by Hiring the Deaf," in *Orientation to the Hearing Impaired Worker: A Report on the Conference* (Portland, Oregon: Oregon College of Education, June 13-15, 1968), p. 49.

3. Automation is replacing manual tasks with the result that technicians are required with a high level of skill in mathematics and English.

4. Technology is eliminating many long-standing jobs and creating new ones at an amazing rate.[24]

Change is an integral part of contemporary life and flexibility is a prerequisite for survival. Meeting the challenges inherent in these trends is difficult even for the hearing adult, equipped as he is. The undertrained, relatively unsophisticated deaf adult faces economic extinction in today's fast changing labor market.

Continuing education is a fact of life for the hearing. The ghetto dropout still has his choice of various opportunities for training and education. The high school graduate makes his selection from a veritable smorgasboard of educational offerings. Post high school educational opportunities for deaf people are extremely limited, however.[25] The Babbidge report almost six years ago underscored the need.

> *There is a particular danger that the deaf may be early victims of a changing occupational outlook... The deaf should have access to a full range of post-secondary occupational and adult education available to the general population and be prepared to benefit thereby.*[26]

This same need has been voiced time after time. Schein in his well-known study of the deaf community was clear in his recommendation.

> *The rapidly changing occupational conditions demand adjustments in educational preparation that will assure it will continue to meet the future needs of deaf persons. To maintain and improve the favorable aspects of their economic life, deaf persons must have continuing education.*[27]

The deaf person competes in a world in which the cards are stacked against him. That he comes out as well as he does is remarkable. If education as a lifetime process is to be provided for all, there seems to be little justification for the fact that so few opportunities for continuing education are available to the deaf. Actually, the situation demands superior educational opportunities for the deaf.

> *To every extent possible, the deaf person should be better trained, more thoroughly trained than the hearing person because of the stiff competition for jobs.*[28]

Leaders in education for the deaf for years have cried out as voices in the wilderness for *continuing* education for the deaf. There is strong sentiment that adult education of the deaf needs more emphasis than perhaps any other area in the field.

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24. Don W. Russell, "Rehabilitation Looks at the Education of the Deaf," in *National Conference for Coordinating Rehabilitation and Education Services for the Deaf – Proceedings*, p. 18.

25. Babbidge Report, p. 43.

26. *Ibid.*, p. xvii

27. Jerome D. Schein, *The Deaf Community–Studies in the Social Psychology of Deafness* (Washington: Gallaudet College Press, 1968), p. 69.

28. Abraham Stahler, "Manpower," in *Proceedings of a National Workshop on Improved Vocational Opportunities for the Deaf*, p. 50.

It just might be that adult education is the most needed phase of education in the area of the deaf today. Communications difficulties retard the rate at which deaf persons can receive and absorb information. Therefore, education for the deaf should be a life-long process.[29]

Again, the Babbidge committee report, cited earlier, was specific in its delineation of some of the areas of need.

The deaf need access to more courses offering opportunities to learn more about insurance, changes in social security programs, tax issues in which they have a vital interest, developments in national and international affairs as well as in state and local government, legal matters (wills, license requirements, deeds, etc.), and the raising of children. In addition, there are many adult education courses with a semi-vocational application which would enhance the resources that the deaf have to offer.[30]

The 1967 National Conference on the Education of the Deaf underlined this position with its own evaluation.

At the post-secondary level, enhanced opportunities are needed in colleges and universities, junior colleges, technical schools, vocational schools, and adult education programs.[31]

Long strides have been made in all of these with the exception of adult education.

One of the most eloquent appeals for increased educational opportunities for the adult deaf was made by Dr. Ray Jones, long associated with the oldest continuing adult education program for the deaf in the United States.

In an era of national concern for the "culturally deprived," the "disadvantaged" and the "educationally handicapped," it is appropriate that our attention today should focus on the educational needs of adult deaf persons. It is my belief that this is the most neglected, the most disheartening, and therefore the most challenging area in public education today.[32]

What do the deaf want? The words of a deaf man say it all.

What do deaf people want from the hearing world? Very little, really; no more or less than is available to normal hearing people... These deaf admit that the communication difficulty is just too great for them to overcome when they enroll in classes for the hearing. They want opportunities that they do not have... They ask that the hearing try to understand the problems of learning posed by deafness. .... There is one more thing that the deaf want and seldom get: equality of treatment and opportunity to advance.[33]

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29. Thomas A. Mayes, "Summary of Conference," in *A Report on the Conference for Teachers and Interpreters in Adult Education Programs for the Deaf*, p. 36.

30. Babbidge Report, p. 49.

31. U.S. Department of Health, Education and Welfare, *Education of the Deaf–The Challenge and the Charge*, A Report of the National Conference on the Education of the Deaf, Colorado Springs, Colorado, April 12-15, 1967 (Washington: U.S. Government Printing Office, 1967), p. 115.

32. Ray L. Jones, "Lights Go On for the Deaf," in *Workshop for Baptists on Deafness and Rehabilitation*, p. 75.

33. Robert G. Sanderson, "The Deaf in the World of Work," in *Proceedings of a National Workshop on Improved Vocational Opportunities for the Deaf*, pp. 59-60.

Continuing education programs proliferate. Why cannot deaf adults profit from what is already available? The deaf adult cannot use most existing adult education offerings for the same reason the deaf child cannot use the services provided the hearing child in the public school. His lifelong social and communicative isolation pursues him like a hound of heaven. Without unique offerings tailored to his needs, or without special provision being made for bridging the communications gap, presenting the deaf adult with the opportunity to enroll in most adult education programs is like offering shoes to the man who has no feet.

Adult education of the deaf is not a new idea. Classes and correspondence courses have been offered deaf adults from time to time since early in this century. As early as 1915, correspondence courses for former pupils were being offered by schools for the deaf in Iowa and in Canada.[34] In the late 1920's and the early 1930's the St. Louis Board of Education operated an evening school for the adult deaf twice a week. Courses offered included English, mathematics, bookkeeping, typing, electricity, drafting, cooking, sewing, cabinetwork, lipreading, and physical education.[35] In this same period an extension course was made available to deaf farmers in North Carolina;[36] and the Minnesota school for the deaf offered a correspondence course for former pupils in reading and arithmetic.[37] WPA and other government agencies financed programs in Kansas City; Chicago; and Newark, New Jersey, during the mid 1930's. Subject matter covered areas of English, vocabulary building, business methods, current events, speech and mathematics.[38]

When WPA terminated, many of the programs available during the 1930's died; and World War II put an end to any further effort in this direction. During the 1960's growing concern over the status of the deaf adult renewed efforts to make opportunities for continuing education available to him. Varied programs have been offered in Flint, Michigan; Boston; and the Los Angeles area. Somewhat narrower opportunities have been made available in Chicago; Salt Lake City; Columbus, Ohio; New York City; Kansas City; and Baltimore, to name a few.

Results have been spotty. Most programs suffer from lack of a stable financial base and the lack of a permanent, trained professional staff. Many programs show the results of precipitous planning and the lack of coordination and follow-through. All programs exhibit the need for materials specifically tailored to the requirements of the deaf adult. Many are forced to operate under public school regulations in terms of class size and teacher/pupil ratio. These roles are unrealistic and impractical in their relation to the communications problem native to the deaf adult, and to the size of the deaf community from which students are drawn. All attempts at continuing education for the deaf have had to wrestle with the problem that programs must be flexible enough for deaf adults at

34. "School Items," *American Annals of the Deaf*, Volume 64, No. 1 (January 1919), p. 81.

35. Pearl Herdman, "An Evening School for the Adult Deaf," *American Annals of the Deaf*, Volume 76, No. 1 (January 1931), p. 8.

36. Irving S. Fusfeld, "Miscellaneous," *American Annals of the Deaf*, Volume 81, No. 5 (November 1936), p. 516.

37. Irving S. Fusfeld, "Miscellaneous," *American Annals of the Deaf*, Volume 84, No. 2 (March 1939), p. 183.

38. *Ibid.*, pp. 180-181.
William J. Marra, "The Federal Adult Education Project for the Deaf," *American Annals of the Deaf*, Volume 82, No. 5 (November 1937), pp. 406-410.

so many levels of intellectual ability and educational background. Such a spread in ability calls for the kind of individualized curriculum that is extremely difficult to provide.

Finally, common to all programs in adult education is the problem of motivation. After an initial burst of enthusiasm, students are likely to drop out and cease to participate. Further, even initially, it is very difficult to involve the deaf adult whose needs are greatest. It may be that the deaf want more education but not of the kind as they have had up to now.[39] Much continuing education of the deaf mimics traditional curricula and methods; there is little to attract the deaf adult to a program structured in a manner which has failed him previously.[40]

The problem of motivation is further intensified by the isolation from the larger society into which communication difficulties have forced many deaf adults. Coming out of this isolation to join a group in a new setting, even if he finds out about it, involves a risk. For him it is a journey from the known to the unknown. Unless the pull to the adult education program is very strong and highly attractive, some deaf persons may well choose to remain within their smaller world. There is a feeling of security in so doing, as well as a lack of awareness of the continuing damage this narrowed horizon does to him.

The need for continuing education of the deaf is inescapable. The problems are monumental. Obviously it is an impossible task to provide the deaf adult with all he was denied as a child. The enormity of the job to be done, however, does not relieve us of the responsibility of doing something. The situation might be likened to trying to row upstream in a rushing river – the consequences of doing nothing are far worse than the results of rowing, however difficult that may be.

Adult education of the deaf, because of the characteristics of most of those it purports to serve, is largely traditional in nature – it is an attempt at redress for the loss of many of the basic elements of education suffered by the adult deaf individual. If continuing education for the deaf is to be effective, however, it must be anything but traditional in its attitudes and approaches. Pervading every element of the program must be the joy of learning, a belief in the possibility of success in learning, and an anticipation of the larger life that increased knowledge provides. We must do everything we can to attract the deaf adult and stimulate him to participate in the educational process and, in so doing, develop tools for self-propelled learning.

Forging meaningful programs of continuing education for the deaf adult will call for radically different approaches, not only to the process of education but also to the allocation of resources. New courses must be charted through a sea of both problem and opportunity. Highly desirable would be a broadly based, national program of continuing education for deaf adults, that would utilize all the resources, methods, and media available. To be most effective such a program should contain, in addition to its principal educational thrust, several features that are of basic importance to the future of continuing education of deaf adults.

First, because continuing education for deaf individuals is relatively immature, both initial and continued training of staff will clearly be necessary. In fact, one major function of a program of this broad nature should be building a reservoir of specialists in continuing education of deaf adults.

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39. The Leadership Training Program in the Area of the Deaf, *A Report on the Conference for Teachers and Interpreters in Adult Education Programs for the Deaf*, p. 10.

40. Proceedings of a Workshop on Adult Education of the Deaf held in Kansas City in October 1969 are now being prepared for publication.

Second, development and trial of suitable materials and methods will need to be a major part of any such effort from its inception. One of the weakest links in continuing education for deaf adults has been the paucity of materials specifically tailored to their needs. Such materials should cover a broad spectrum–from those pertinent to deaf students at the college and graduate levels, to aids for deaf persons who need adult basic education or instruction pertinent to practical everyday living. Development of materials should proceed on three fronts: Evaluation and adaptation of existing materials; production of prototypes of especially designed materials; and experimentation with a wide range of media and technology applications.

Third, a research and evaluation component must be regarded as essential to any plan of continuing education for deaf adults. Consistent and meaningful research and evaluation will lay the foundation for building solid programs everywhere. Significant work must be done to validate methods and materials in working with the deaf adult. Research and evaluation could cover such areas as program performance, as reflected by results compared with objectives; quantifiable materials production; student tracking and character analysis; and cost analysis–to mention only a few. Research activity should emphasize needs assessment and motivational analysis of the adult deaf community.

Finally, any effort in this direction must be a partnership. Too often the deaf have been *told* what to do and not allowed to share in the planning.[41] As recommended by the report of the National Conference on the Education of the Deaf, any projected adult education program must be of and by the deaf, as well as for the deaf. It is a fact that existing programs have achieved the best results when deaf adults themselves have been integrally involved in all aspects of the process of education.[42] Effective leadership in the adult education of the deaf will come from working with and not just for the deaf.[43]

> *. . .adult education should help each deaf individual to become better assimilated in the larger world in which he lives. It should help to enlarge his image as a member of society, to undergird his sense of individual worth and dignity. . . It should help to increase vocational opportunities, provide for cultural growth, contribute to improvement in family living, and offer everything possible to broaden our horizons and enhance our outlook on life.*[44]

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> *Concern yourselves not with what seems feasible, not with what seems attainable, not with what seems polite, but concern yourselves with only what you know is right.*[45]

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41. Roy M. Stelle, "Coordination of Education and Vocational Rehabilitation Services for the Deaf," in *Coordinating Rehabilitation and Education Services for the Deaf,* Region II Conference Proceedings, Jerome N. Rubino, et al, eds. (New York. New York University, May 8-9, 1969), p. 14.

42. *Education of the Deaf–The Challenge and the Charge,* p. 129.

43. Ray L. Jones, "Preface," in *Proceedings of a Conference on Leadership Needs in the Deaf Community,* Eugene Thomure, ed. (Northridge, California: San Fernando Valley State College, Leadership Training Program in the Area of the Deaf, February 8, 1964), p. 2.

44. Thomas A. Mayes, "Summary," in *A Report on the Conference for Teachers and Interpreters in Adult Education Programs for the Deaf,* p. 36.

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TELEVISION FOR DEAF AUDIENCES: A SUMMARY OF THE CURRENT STATUS

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SUMMARY

Interest in making television more meaningful for deaf people has mushroomed in the last year. Forty-seven stations have one or more regularly scheduled programs of news, entertainment, or public affairs produced specifically with consideration for deaf viewers. One daily program using sign language is being distributed by the National Broadcasting Company. Many other efforts are coming to fruition. They are discussed under two major headings: (a) Captioning General-Audience Programs, and (b) Special Programming for Deaf Viewers.

Captioning presents three problems: (a) developing the capacity for optional reception, (b) resolving technical details with respect to size and type of caption and completeness of captioning, and (c) encouraging broadcasters to caption, once the delivery system has been satisfactorily produced and its use approved by the Federal Communications Commission.

Special programming involves producing programs likely to be of interest only to deaf viewers; e.g., International Games for the Deaf, National Association of the Deaf Convention, local news about deaf community events. Gaining air time for such programs does not seem to be difficult. Getting programs produced, however, involves considerable expense. To overcome the latter problem, a National Television Cooperative for Deaf Viewers is proposed.

Seldom has progress in media development benefitted deaf people. The telephone, ironically enough, put them at a great disadvantage, rather than "aiding the development of speech for the deaf," as Alexander Graham Bell intended. Motion pictures were different. They were ideal for deaf audiences – until they changed from silents to talkies. Radio, of course, was a communications disaster for deaf persons. Then came television.

Television opened mass communication again to the deaf community. But television did not remain teleVISION very long. As it is presently used, it often is little more than "radio with a few pictures." There is heavy dependence on dialogue to forward the story. News broadcasts, in particular, are mostly read. Frequently the speaker cannot be seen or his face is too tiny an image to permit effective lipreading. As it has developed to now, television has not achieved its potential as a communications medium for deaf people.

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For each of the media, except radio, deaf people recently have succeeded in promoting adjuncts which permit their use without the audio dependence. The Phonetype connected to the teletype (TTY) makes the telephone available to deaf users. Captioned Films for the Deaf has restored motion pictures to deaf users. Now similar possibilities are opening in television.

There are no theoretical or technical reasons for the exclusion of deaf persons from television as both an information and an entertainment source. As shown by the table in Appendix A, 47 television stations have had, or are now showing, regularly scheduled programs prepared with deaf viewers in mind. The summary covers the last 24 months and may not be complete. There are 18 daily news programs, 15 emergency warning services, 15 weekly information and entertainment series. In addition to these regularly scheduled features are occasional programs and brief, nationally distributed series. NBC's "Quiet Language For A Noisy World" and "Say It With Hands," a series sponsored and distributed by Captioned Films for the Deaf, are examples. Also not shown in the table is the NBC network's new daily half-hour program for preschool children, "Watch Your Child/The Me-Too Show." Now scheduled in 27 major markets, it features a young deaf girl who simultaneously translates the dialogue into the language of signs. Taken together, these programs illustrate a rapidly growing desire on the part of the television industry to serve the deaf and hearing impaired audiences.

What follows in this paper is an attempt to bring together for discussion all aspects of this topic. The presentation is divided into two major sections: (a) Captioning General-Audience Programs, and (b) Producing Programs for Deaf Audiences. These two headings cover the present attempts being made to enable deaf persons to use and enjoy television.

CAPTIONING GENERAL-AUDIENCE PROGRAMS

Captions, the printed scripts superimposed on foreign-language films and used in silent movies, have appeared occasionally on television programs for years. For example, batting averages have been shown while the hitter stands at the plate. No technical problem in transmitting this kind of visual information exists. Then why are not captions regularly provided to deaf viewers on all programs?

Two replies predominate in responses to this question. First, broadcasters fear that captions will be objectionable to hearing viewers, even though there is very little research to support this assumption. Second, writing captions is difficult, and using them involves added expense.

Optional Reception of Captions

If captions could be received at the discretion of the viewer, then the first objection would be baseless. A technically and economically feasible method for optional captioning has now been developed by the National Bureau of Standards (NBS) of the U.S. Department of Commerce. The captions are broadcast in an electronic code which appears only on television screens equipped with an adaptor. When the adaptor is in the "on" position, the captions are visible. Otherwise, the captions cannot be seen.

This system, originally developed by NBS to disseminate accurate time information, codes a tiny portion of the signal that broadcasters normally use to transmit alphanumeric information, such as time of day, channel identification and special test messages. This portion of the video signal is called the "vertical trace interval."

It has been estimated that a simple, low-cost decoding module could be mass produced and installed in TV sets at the factory. Local television stations would purchase relatively inexpensive equipment to transmit captions along with their regular broadcasts. For network originations, the encoded captions would be transmitted with the program. Only a few small engineering and design problems remain to be solved to make this system marketable.

To date, no station has filed with the Federal Communications Commission (FCC) for multiple usage of the vertical trace interval. The FCC has adopted the general principle that this interval may be used for transmission of additional data supplementary to the basic video signal. Such vertical interval signals are usually invisible on the home television receiver. It is now quite common for test signals to be transmitted via the vertical trace interval. A favorable ruling on the NBS system by the Commission would open the way for television captions, since its authorization to include captioning within the vertical trace interval is required by law.

In short, then, there is no theoretical reason why captions cannot presently accompany every broadcast. There are only minor engineering problems remaining in making the reception of captions optional. Nor is the cost of the necessary equipment anticipated to be high, either to the broadcasters or the set owners. Thus, few barriers remain before realization of the capability of mass transmission and optional reception of captions.

Writing and Producing Captions

Now that the capability for transmitting captions exists, the problems of actually writing and producing the captions to be transmitted must be solved. These are the problems similar to those faced by the Media Services and Captioned Films Branch of the U.S. Office of Education in captioning entertainment and educational films for deaf viewers. Generally, a person speaks faster than he reads; therefore, a simple word-for-word presentation of the television script would seldom be used. Deaf people do not need, and probably would not want, a literal transmission of the dialogue accompanying the pictures on their television screens.*

Further considerations, such as the recognition of the vocabulary levels of deaf persons, also should be taken into account. Several studies have indicated that the average deaf adult reads below a fourth-grade level. Standards for television captions must be developed along with production techniques for broadcast. Minor technical details remain including placement of captions on the television screen and their size.

Most importantly, broadcasters must be given incentives (or subsidies) to produce captions. Writing captions is an art. To translate a script satisfactorily involves appreciable expense, even when limited to retyping on special rolls. Also, many shows are unscripted or only partially scripted. Captioning these would be costly, unless engineering research could yield new devices to reduce labor costs. In any event, the capability to transmit

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*The availability of optional captions would benefit not only deaf people, but also ethnic groups desiring training in English as a second language and children needing supplementary reading practice. However, if captions are also to help hearing children and adults learn to read, word-for-word captions would seem to be important.

optionally viewed captions – now practically realized – is not enough to assure deaf audiences that captions will be frequently available. Ways must be found to meet or reduce the costs of captioning. Or broadcasters must be encouraged to bear the added costs. No one should be discouraged about the possibilities of finding a satisfactory, long-term solution to this half of the captioning problem, but it must not be overlooked.

SPECIAL PROGRAMMING FOR DEAF AUDIENCES

In addition to captioning regular programming, growing opportunities exist for broadcasting original materials designed especially for deaf audiences. The increasing appearance of such programs (see Appendix A) accurately reflects the current interest of commercial broadcasters in offering programs for deaf people.

Deaf people not only desire access to regular broadcasts – they also want programs on subjects unlikely to be covered by general-audience television. No network has ever sent, or is likely to send, a crew to cover the International Games for the Deaf ("the deaf Olympics"). News broadcasters will probably ignore the reports from the forthcoming biennial convention of the National Association of the Deaf. Such events have a narrow range of interest. For deaf audiences to find on their television screens events of interest to themselves, as well as produced in a manner they can comprehend, special arrangements must be made.

Obtaining Transmission Time for Special Programs

Every station, whether commercial or educational, cable or over-the-air, has some free air time. Deaf viewers have a legitimate claim to a portion of the public-service broadcasting time required by the FCC. Clearly, programs produced specifically for deaf viewers qualify as a public service. In December 1970, the FCC issued a Public Notice to all over-the-air television stations urging them to include visual aids in their telecasts for the benefit of deaf viewers. The Commission anticipates eventually mandating visual assists in emergency situations. Such rules are under the jurisdiction of the Emergency Communications Division of the FCC. Further action awaits the recommendations of the National Industry Advisory Committee.

For cable TV, FCC rules now stipulate that all new cable systems built in the top 100 markets (which includes over 85 percent of the population) must provide channels for governmental, educational and public use. Special programming for deaf audiences can be carried on these public-access channels. In addition, many cable operators have chosen to reserve a separate channel for their own commercial use; here is another potential outlet for programming for deaf persons.

The experiences of those who are now broadcasting programs for deaf audiences show that securing air time is not a serious problem. Those who have broadcast-quality tapes or films have generally been able to find a station willing to transmit their materials, either by cable or over the air.

Producing Special Programs

A more serious problem is producing the programming to be broadcast. Television specifically for deaf audiences falls into three general categories: News (including emergency notifications and weather information), education or public-affairs, and entertainment. Each of these types has a variety of possible formats for programs. An investigation should be conducted of deaf audience's desires as to type and format of program.

The principal stumbling block to producing for deaf audiences is lack of money. Television production costs are high; broadcast-quality production facilities are almost prohibitively expensive for occasional use. The typical black-and-white half-hour tape for use by network television costs from $10,000 to $50,000 to produce. Color doubles the price.

Economical, perhaps nominally profitable, methods of production and distribution must be developed outside, or alongside, commercial television, if original programming for deaf persons is to be facilitated on a large scale. So far, broadcasters have seen only marginal self-interest in encouraging original television programming for the deaf community – primarily because of an apparent lack of financial benefits within the present marketing and distribution systems.

Creation of a cooperative syndicate of production facilities would be particularly useful and is fundamental to the development of original programming for deaf persons. Experience shows that few sponsors, whether commercial, governmental, or private, are willing to support the production of materials for exclusive telecast in a single, limited broadcast area. And because the alternative of a broad, effective distribution network has never been established, very little original programming, other than local news shows, has been attempted.

The concept of a National Television Cooperative for Deaf Viewers is simple. For instance, if there were 100 agencies in the network, each willing to produce just one program, then by simple scheduling, each member station would receive for his own broadcast use a series of 100 programs. Production costs are reduced in proportion to the number of participants. Such economies of scale permit a considerable increase in programming and would encourage funding for experimentation with new approaches and formats. Once established, the cooperative would be self-sustaining.

In return for producing one hour of special-interest programming for deaf viewers, each cooperating member would receive many times that number of hours of public-service material. Is that a good deal? When approached with this plan, a vice president of a local television station responded, "That's one project I can approve without consulting my Board of Directors!"

EDUCATIONAL POTENTIAL

The value of television as a teaching tool has been demonstrated during the past decade. At the present time, however, schools for deaf children have not taken full advantage of the educational potential of television.

Among the reasons for the reluctance of educators to use television are the lack of suitable materials for viewing by deaf children and the prohibitive cost of producing original materials. Both of these problems might be solved by the establishment of a production cooperative, along the lines suggested earlier.

A cooperative of this kind would require each participating school to produce only one segment of a television curriculum, at an estimated cost of approximately $1,000-$2,000 per member. Participating schools would then share the entire curriculum. For example, if 50 schools for deaf children agreed to join such a cooperative and produce one segment each, a 50-program curriculum would be available for broadcast. By investing only $1,000-$2,000, each member school would have access to a

$50,000-$100,000 teaching program. The curriculum could be broadcast either over-the-air or on CATV. Since arrangements for securing broadcast time over-the-air might be difficult and would greatly increase production costs, the cable seems to offer the more promising possibilities now. FCC rules require each new CATV franchise to provide channels for government, education and public use, making access to broadcast time readily available to schools for deaf children. Inter-connections between cable systems to allow for nationwide broadcast are technically simple; shipment of tapes between schools would entail only minor administrative costs.

Captioned television programs should become increasingly available through the U.S. Office of Education's Media Services and Captioned Films Branch. Experiments now being conducted, under the direction of the new Branch Chief, Mr. Malcolm Norwood, will produce the information needed to plan expansion of this approach to television. The Branch is also studying such imports as the BBC's "Vision On," a children's TV program as popular in Great Britain as "Sesame Street" is in the United States. The stimulus from these overseas examples may stir producers in the Americas to give consideration to deaf school children.

APPENDIX A

Commercial and Educational Television Stations[a] providing Special Programming for Deaf Viewers, by State and Type of Program: April 1972

STATE/CITY/TV STATION		TYPE OF SPECIAL PROGRAMMING[b]
Alabama		
Birmingham	WAPI	New C, Em C, WYC
Mobile	WALA	New I, Pub Aff, Em C
Arkansas		
Little Rock	KTHV	New I, Em C
Arizona		
Tucson	KVOA	WYC
California		
Hollywood	KTTV	New I
Los Angeles	KNXT	New C
	KCET	Lip
	KNBC	WYC
San Francisco	KRON	New I
Connecticut		
Hartford	WTIC	New C, Pub Aff, Em C
	WHIB	WYC
West Hartford	WNHB	New I, Pub Aff, WYC
District of Columbia	WTOP	New C, Em C
	WTTG	New C
	WRC	WYC
Florida		
Palm Beach	WPTU	WYC
St. Petersburg	WLCY	Pub Aff, Em C

Illinois		
Chicago	WSNS	New C
	WTTV	Lip
	WGN	Em C, Em I
	WMAQ	WYC
Indiana		
Indianapolis	WISH	New C, Em I
Iowa		
Ames	WOI	Pub Aff
Des Moines	WHO	Em I
Kentucky		
Lexington	WLEX	WYC
Paducah	WPSZ	WYC
Maryland		
Baltimore	WMAR	Pub Aff, Em C
	WBAL	WYC
Massachusetts		
Boston	WBZ	WYC
Minnesota		
Minneapolis/ St. Paul	KTCA	Lip
Mississippi		
Jackson	WLTD	WYC
	WJTV	New I, Em C
Missouri		
Kansas City	KCMO	Em I, Em C
Nebraska		
North Platte	KNOP	WYC
New Mexico		
Albuquerque	KOAT	New C
North Carolina		
Raleigh/Durham	WRDU	WYC
New York		
New York	WNBC	WYC
Rochester	WXXI	New I
Ohio		
Cincinnati	WLWT	Em C
	WXIX	Em C
Cleveland	WKYC	Em C, WYC, Pub Aff
Columbus	WLWC	Em I, Pub Aff, New I
Toledo	WSPD	WYC
Zanesville	WHIZ	WYC
Pennsylvania		
Erie	WICU	WYC
Philadelphia	WKYW	WYC
	WCAU	Em C
	WFIL	Em C
Pittsburgh	WIIC	WYC

Rhode Island		
Providence	WJAR	WYC
Tennessee		
Chattanooga	WRCB	New I
Texas		
Austin	KTBC	New I
Dallas	KERA	Pub Aff
	WFAA	New I
Utah		
Salt Lake City	KCPX	New I, Em C
	KUTV	WYC
Washington		
Spokane	KREM	Pub Aff
West Virginia		
Clarksburg	WBOY	WYC
Parkersburg	WPAT	WYC
Wheeling	WTRF	WYC
Wisconsin		
Milwaukee	WITL	New C
	WMUS	Lip

[a] Includes only over-the-air broadcasters; does not include CATV

[b] New C = Captioned Daily News
New I = Interpreted Daily News
Pub Aff = Interpreted Public Affairs or Entertainment
Lip = "Let's Lipread" film series
Em C = Captioned Emergency Bulletins
Em I = Interpreted Emergency Bulletins
WYC = "Watch Your Child" daily series

APPENDIX B

Program Origination

Local Origination

More than 40 stations across the United States have offered regular programming for deaf audiences. Approximately 20 of these stations offer news programs which are manually interpreted. For example, KRON-TV (San Francisco) has recently inaugurated a newscast for deaf residents in the Bay area called "Newsign." Broadcast weekday mornings within an available local segment of the "Today Show," it features national and local news plus special features for deaf viewers. The program is produced and conducted by two young deaf San Francisco residents who interpret the news for the more than 25,000 deaf persons within the Grea'er San Francisco Bay area. Another approach to the presentation of news for deaf people is being broadcast over WXXI-TV (Rochester, New York). Signed interpretation of the ABC-TV Network's "Harry Reasoner News" is simultaneously transmitted on the local educational-television outlet.

More than 15 stations around the country provide emergency or weather information to deaf viewers. Among these are WHO-TV, Des Moines, Iowa, which provides regular tornado alerts and KCMO-TV, Kansas City, Missouri, which presents emergency notices in captions and sign language.

Over 15 stations have offered weekly entertainment or information programs for deaf viewers. In cooperation with the American School for the Deaf, educational channels in Hartford, Connecticut, schedule a half-hour series, "The Deaf Citizen," once a month. This program informs the deaf viewer of local events of particular interest to him, and educates the public about the needs and problems of the deaf community. It employs both signs and captions.

The Deafness Research & Training Center (New York University) is cooperating with WPIX-TV (New York City) in scheduling four half-hour programs in the station's "Equal Time" series. The narrative will be done by voice and sign language, simultaneously. An evaluation is planned to determine the response of the deaf community to these programs.

Network Origination

Earlier this year, a 10-program series, "A Quiet Language for a Noisy World," was broadcast over the NBC-TV Network. The series, created by Mrs. Ethel Untermeyer, was produced in Chicago. The programs featured discussions and demonstrations of manual communication with deaf persons. As well as entertaining deaf viewers, the series informed and educated the general viewing audience about sign language. The programs are scheduled for rebroadcast in Chicago this summer.

Over 27 NBC-TV Network stations now carry the daily program, "Watch Your Child/The Me-Too Show," which is interpreted in sign language for deaf children and adults. Captions also appear at the beginning of each new activity to explain to parents the purpose of what the children are doing. Technical assistance on the use of sign language is provided by the Deafness Research & Training Center (New York University).

The Public Broadcasting Service (PBS) is now captioning 26 programs of the "French Chef" series featuring Julia Child. Eight of these programs, which are being captioned by station WGBH (Boston), will be shown August 6-August 24, 1972. They are part of the regular summer rerun schedule and will be available to approximately 200 PBS affiliates. An evaluation of viewer responses to captions is planned for both hearing and non-hearing audiences. A second series of 26 programs will also be selected for captioning later this year.

CATV Activity

Since September 1971, the New York University Deafness Research & Training Center has sponsored two hours of prime time programming per week on the public-access channel in New York City. "The Deaf Community Hour" is broadcast every Tuesday and Thursday evening from 8:00 to 9:00. Production costs have been covered by a grant from the Center for the Analysis of Public Issues (Princeton, New Jersey) because they feel the experience gained will be valuable to other special interest groups.

The schedule has included a variety of formats and topics, ranging from panel discussions about problems of deaf people to performances of the National Thea.re of the Deaf. (For a more detailed description of the series, see *On The Cable*, Sloan Commission Report on Cable Communications, New York: McGraw-Hill, 1971, pp. 231-232.)

The reaction to "The Deaf Community Hour" has been very gratifying. Both the cable franchises, Sterling Manhattan and TelePrompter, provide free time for broadcast and advertise the series. The deaf community has also responded favorably. Viewer reactions are now being gathered. An evaluation of the rehabilitation potential of specially designed television programming is also planned.

POSTSECONDARY PROGRAMS FOR DEAF STUDENTS 1972

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Background

The status of the deaf worker, traditionally, has been one of underemployment and unemployment. Of major importance among the reasons for this situation was the lack of opportunities for the deaf person to acquire the level of education and skills that would enable him to compete successfully in the labor market. The residential schools, with whom this educational task has been historically vested, have found it increasingly difficult to prepare the deaf student for our ever-advancing, technological society. Clearly, there is need for more programs, especially at the postsecondary level.

The increase in public awareness, as seen by legislated programs and the growth of the community college movement, has been instrumental in opening up new postsecondary opportunities for the deaf. In fact, over the past five years, the number of postsecondary programs has increased so rapidly that it has been difficult for vocational-rehabilitation counselors, educators, parents, and deaf students themselves, to keep abreast of the developments.

In December 1971, a group of administrators, representing eight postsecondary programs with respective enrollments between 50 and 1000 deaf students, met informally in St. Paul, Minnesota, to share information. It was decided at that meeting that high priority should be given to identifying and disseminating information about various postsecondary programs now available to deaf students in this country.

Late in December 1971, and through January 1972, an extensive effort was made to identify current and projected postsecondary programs for deaf students. Although rumor had indicated that upwards of 70 such programs were in existence, our final list numbered only about 40. A survey form was developed and sent to administrators or other known officials of these programs, most of whom indicated that they did have a program for deaf students. Several, however, replied that they had no expectation of organizing such a program.

Although there was no wish to establish explicit guidelines for what constitutes a program, it was decided that the following basic criteria would be adhered to in judging institutions:

1. Special services are provided for the deaf student.
2. One or more full-time staff members, or the equivalent, are commited to deaf students.
3. Provision is made for the communication needs of deaf students.

4. The program is available to deaf students directly upon graduation from a secondary program.

The programs presented in this article should not be assumed to comprise an accredited group. They are listed to suggest potential programs; it is probable that some programs have been missed. The investigator can only apologize and ask that he be notified of omissions for inclusion in later lists.

Programs

As of March 1972, in the United States, we identified 26 postsecondary programs for deaf students. Two of these are new; four others indicate that they will be accepting full-time students for the first time in the Summer or Fall, 1972. The following list presents these programs and indicates whom to contact for admissions information. Also included are responses to five items on the survey form; these are:

1. The number of full-time deaf students enrolled in the program in the Fall term, 1971-72 academic year.
2. Whether the programs are essentially Liberal Arts (Arts & Sciences), Technical/Vocational or both Liberal Arts and Technical/Vocational.
3. The degrees offered by the institution.
4. When students can be admitted to the program.
5. Availability of printed information about the program.

Programs are listed alphabetically, by state.

AMERICAN RIVER COLLEGE
4700 College Oak Drive
Sacramento, California 95841

Admissions Contact: Robert E. Allerton, Dean
Student Personnel Services
(same address)
Tel. No. (916) 484-8261

Program Information:
1. Enrollment - to be operational in September, 1972.
2. Emphasis - both L.A. and Tech./Voc.
3. Offers - Certificates, Diplomas, Associate Degrees.
4. Admission - on a semester basis.
5. Printed information available - not at this time.

GOLDEN WEST COLLEGE
15744 Golden West Street
Huntington Beach, California 92647

Admissions Contact: Daniel T. Clere, Guidance Specialist
(same address)
Tel. No. (714) 847-4489, ext. 577

Program Information:

1. Enrollment - 70
2. Emphasis - both L.A. and Tech./Voc.
3. Offers - Certificates, Diplomas, Associate Degrees.
4. Admission - on a semester basis.
5. Printed information available - yes.

HACIENDA LA PUENTE VALLEY VOCATIONAL SCHOOL
15359 East Proctor
City of Industry, California 91744

Admissions Contact: Jean Smith
Coordinator of Deaf Program
(same address)
Tel. No. (213) 968-4638

Program Information:

1. Enrollment - 77.
2. Emphasis - Tech./Voc.
3. Offers – Certificates, Diplomas.
4. Admission - any time.
5. Printed information available - yes.

PASADENA CITY COLLEGE
1570 E. Colorado Blvd.
Pasadena, California 91106

Admissions Contact: Dr. I.G. Lewis
Adm. Dean, Student Personnel Services
(same address)
Tel. No. (213) 759-6961, ext. 391

Program Information:

1. Enrollment - 20
2. Emphasis - Tech./Voc.
3. Offers - Certificates, Diplomas, Associate Degrees.
4. Admission - on a semester basis.
5. Printed information available - not at this time.

RIVERSIDE CITY COLLEGE
4800 Magnolia Avenue
Riverside, California 92506

Admissions Contact: William E. May
Coordinator for the Deaf
(same address)
Tel. No. (714) 684-3240

Program Information:

1. Enrollment - 27.
2. Emphasis - both L.A. and Tech./Voc.
3. Offers - Certificates, Diplomas, Associate Degrees.
4. Admission - annual basis.
5. Printed information available - yes.

SAN DIEGO COMMUNITY COLLEGES
835 Twelfth Avenue
San Diego, California 92101

Admissions Contact: Beverly J. McKee
Acting Administrative Assistant for Deaf Programs
733 Eighth Avenue
San Diego, California 92101
Tel. No. (714) 232-7497

Program Information:

1. Enrollment - information not available.
2. Emphasis - both L.A. and Tech./Voc.
3. Offers - Certificates, Diplomas, Associate Degrees.
4. Admission - at all times.
5. Printed information available - yes.

CALIFORNIA STATE UNIVERSITY, NORTHRIDGE
Northridge, California 91324

Admissions Contact: Coordinator, Services for the Deaf
(same address)
Tel. No. (213) 885-2614

Program Information:

1. Enrollment - 52.
2. Emphasis - L.A.
3. Offers - Baccalaureate Degrees, Graduate Degrees.
4. Admission - on a semester basis.
5. Printed information available - yes.

SANTA ANA COLLEGE
17th and Bristol
Santa Ana, California 92706

Admissions Contact: Dr. LeRoy J. Gloria, Dean
Special Services
(same address)
Tel. No. (714) 547-9561

Program Information:

1. Enrollment - Program to be fully operational in September, 1972.
2. Emphasis - both L.A. and Tech./Voc.
3. Offers - Certificates, Diplomas, Associate Degrees.
4. Admission - on a semester basis.
5. Printed information available - not at this time.

COMMUNITY COLLEGE OF DENVER
1001 East 62nd Avenue
Denver, Colorado 80216

Admissions Contact: S. Theodore Guttadore, Director
Center for the Hearing Impaired
(same address)
Tel. No. (303) 287-3311, Ext. 290

Program Information:

1. Enrollment - 86.
2. Emphasis - Tech./Voc.
3. Offers - Certificates, Diplomas, Associate Degrees.
4. Admission - quarterly.
5. Printed information available - yes.

GALLAUDET COLLEGE
Florida Avenue at 7th Street, N.E.
Washington, D.C. 20002

Admissions Contact: Bernard Greenberg, Director
Admissions and Records
(same address)
Tel. No. (202) 386-6555

Program Information:

1. Enrollment - 1009.
2. Emphasis - L.A.
3. Offers - Baccalaureate Degrees, Graduate Degrees.
4. Admission - annually and semester basis.
5. Printed information available - yes.

ST. PETERSBURG JUNIOR COLLEGE
Clearwater Campus
2465 Drew Street
Clearwater, Florida 33515

Admissions Contact: T.M. Howz Coordinator
Program for the Deaf
(same address)
Tel. No. (813) 544-2551

Program Information:

1. Enrollment - 20.
2. Emphasis - both L.A. and Tech./Voc.
3. Offers - Associate Degrees.
4. Admission - on a semester basis.
5. Printed information available - yes.

NORTHERN ILLINOIS UNIVERSITY
DeKalb, Illinois 60115

Admissions Contact: Gary Austin, Director
(or Kenneth Bosch, Coordinator)
Program for the Speech and Hearing Impaired
(same address)
Tel. No. (815) 753-1481

Program Information:

1. Enrollment - 40.
2. Emphasis - pre-vocational preparatory and exploratory.
3. Offers - Certificates, Baccalaureate Degrees, Graduate Degrees.
4. Admission - annually.
5. Printed information available - yes.

IOWA WESTERN COMMUNITY COLLEGE
2700 College Road
Council Bluffs, Iowa 51501

Admissions Contact: Bruce N. Hicks, Coordinator
Deaf Program
(same address)
Tel. No. (712) 328-3831

Program Information:

1. Enrollment - 12.
2. Emphasis - both L.A. and Tech./Voc.
3. Offers - Certificates, Diplomas, Associate Degrees.
4. Admission - quarterly.
5. Printed information available - yes.

JOHNSON COUNTY COMMUNITY COLLEGE
57 and Mission Drive
Shawnee Mission, Kansas 66202

Admissions Contact: Darrell E. Matthews, Coordinator
Program for the Hearing Impaired
(same address)
Tel. No. (913) 236-4500, ext. 45

Program Information:

1. Enrollment - 14.
2. Emphasis - both L.A. and Tech./Voc.
3. Offers - Certificates, Diplomas, Associate Degrees.
4. Admission - on a semester basis.
5. Printed information available - yes.

JEFFERSON COUNTY AREA VOCATIONAL SCHOOL
3101 Bluebird Lane
Jeffersontown, Kentucky 40299

Admissions Contact: Jesse L. Wright, Counselor
(same address)
Tel. No. (502) 267-7431

Program Information:

1. Enrollment - 18.
2. Emphasis - Tech./Voc.
3. Offers - Certificates, Diplomas.
4. Admission - as openings develop.
5. Printed information available - not at this time.

DELGADO VOCATIONAL TECHNICAL JUNIOR COLLEGE
615 City Park Avenue
New Orleans, Louisiana 70119

Admissions Contact: Douglas O. Wells
Project Director
(same address)
Tel. No. (504) 486-5403, ext. 346

Program Information:

1. Enrollment - 75.
2. Emphasis - Tech./Voc.
3. Offers - Certificates, Diplomas, Associate Degrees.
4. Admission - semester basis.
5. Printed information available - yes.

GENESEE COMMUNITY COLLEGE
1401 East Court Street
Flint, Michigan 48503

Admissions Contact: Bert E. Poss, Director
Program for Hearing Impaired Students
(same address)
Tel. No. (313) 238-1631

Program Information:

1. Enrollment - operational Spring, 1972.
2. Emphasis - both L.A. and Tech./Voc.
3. Offers - Certificates, Diplomas, Associate Degrees.
4. Admission - on a semester basis.
5. Printed information available - yes.

STATE TECHNICAL INSTITUTE AND REHABILITATION CENTER
Alber Drive
Plainwell, Michigan 48080

Admissions Contact: Fred Daniels, Assistant Principal
(same address)
Tel. No. (616) 664-4461

Program Information:

1. Enrollment - 18.
2. Emphasis - Tech./Voc.
3. Offers - Certificates, Diplomas.
4. Admission - on a semester basis.
5. Printed information available - yes.

ST. PAUL TECHNICAL VOCATIONAL INSTITUTE
235 Marshall Avenue
St. Paul, Minnesota 55102

Admissions Contact: Roger Reddan, Project Counselor
(same address)
Tel. No. (612) 227-9121

Program Information:

1. Enrollment - 90.
2. Emphasis - Tech./Voc.
3. Offers - Certificates, Diplomas.
4. Admission - quarterly.
5. Printed information available - yes.

NATIONAL TECHNICAL INSTITUTE FOR THE DEAF
One Lomb Memorial Drive
Rochester, New York 14623

Admissions Contact: Joseph Dengler
Coordinator of Admissions
(same address)
Tel. No. (716) 464-2197

Program Information:

1. Enrollment - 338.
2. Emphasis - Tech./Voc.
3. Offers - Certificates, Diplomas, Associate Degrees, Baccalaureate Degrees, Graduate Degrees.
4. Admission - quarterly.
5. Printed information available - yes.

COLUMBUS TECHNICAL INSTITUTE
550 East Spring Street
Columbus, Ohio 43215

Admissions Contact: Douglas Slasor, Coordinator
Deaf Program
(same address)
Tel. No. (614) 221-6743

Program Information:

1. Enrollment - operational July 1, 1972.
2. Emphasis - Tech./Voc.
3. Offers - Certificates, Diplomas, Associate Degrees.
4. Admission - annually.
5. Printed information available - May 1, 1972.

COMMUNITY COLLEGE OF PHILADELPHIA
34 South 11th Street
Philadelphia, Pennsylvania 19107

Admissions Contact: Harry Serotkin
Assistant to the President
(same address)
Tel. No. (215) 569-3680

Program Information:

1. Enrollment - to be operational in September, 1972.
2. Emphasis - information not available.
3. Offers - information not available.
4. Admission - information not available.
5. Printed information available - information not available.

TENNESSEE TEMPLE SCHOOLS
Chattanooga, Tennessee 37404

Admissions Contact: L.D. Lockery, Registrar
(same address)
Tel. No. (615) 698-1535

Program Information:

1. Enrollment - 7.
2. Emphasis - L.A. (preparation for the ministry)
3. Offers - Certificates, Diplomas.
4. Admission - on a semester basis.
5. Printed information available - yes.

EASTFIELD COLLEGE
3737 Motley Drive
Mesquite, Texas 75149

Admissions Contact: Wilbur Dennis, Registrar
(same address)
Tel. No. (214) 746-3100

Program Information:

1. Enrollment - 7.
2. Emphasis - both L.A. and Tech./Voc.
3. Offers - Certificates, Diplomas, Associate Degrees.
4. Admission - semester basis.
5. Printed information available - not at this time.

LEE COLLEGE
Box 818
Baytown, Texas 77520

Admissions Contact: Thomas S. McGree
Project Director
210 Graystone Building
1209 Decker Drive
Baytown, Texas 77520
Tel. No. (713) 427-6531

Program Information:

1. Enrollment - 50.
2. Emphasis - Tech./Voc.
3. Offers - Certificates, Diplomas, Associate Degrees.
4. Admission - on a semester basis.
5. Printed information available - yes.

TARRANT COUNTY JUNIOR COLLEGE
Northeast Campus
828 Harwood Road
Hurst, Texas 76053

Admissions Contact: James Reed
Programs Coordinator
1400 Fort Worth National Bank
Fort Worth, Texas 76102
Tel. No. (817) 336-7851

Program Information:

1. Enrollment - operational Spring, 1972.
2. Emphasis - Tech./Voc.
3. Offers - Certificates, Diplomas, Associate Degrees.
4. Admission - on a semester basis.
5. Printed information available - not at this time.

UTAH STATE UNIVERSITY
Logan, Utah 84321

Admissions Contact: Dr. Jay R. Jensen, Head
Dept. of Communicative Disorders
(same address)
Tel. No. (801) 752-4100, ext. 7581

Program Information:

1. Enrollment - 25
2. Emphasis - both L.A. and Tech./Voc.
3. Offers - Associate Degrees, Baccalaureate Degrees, Graduate Degrees.
4. Admission - quarterly.
5. Printed information available - yes.

SEATTLE COMMUNITY COLLEGE
1625 Broadway
Seattle, Washington 98122

Admissions Contact: Stanley R. Traxler, Director
Program for the Deaf
(same address)
Tel. No. (206) 587-4183

Program Information:

1. Enrollment - 92.
2. Emphasis - both L.A. and Tech./Voc.
3. Offers - Certificates, Diplomas, Associate Degrees.
4. Admission - quarterly.
5. Printed information available - yes.

Conclusions

It is obvious that this article does not present a conclusive picture. Some programs have been omitted because they have not come to the attention of the investigators; new programs will emerge; some of those in existence now will not be maintained.*

In the meantime, in order to take full advantage of postsecondary opportunities available to the deaf student, it is important that those who influence decisions of deaf students, and most particularly the students themselves who must make decisions, learn all they can about available programs and their offerings. Program selection then can be made, based on the individual deaf student's needs, interests, and abilities, that will give him the knowledge and skills necessary to compete in today's labor market.

*In an effort to maintain a current listing of postsecondary programs, this investigator would appreciate receiving information about programs, projected or operational, not included in this article.

LOCATION OF POSTSECONDARY PROGRAMS

(1) American River College, Sacramento, California

(2) Golden West College, Huntington Beach, California

(3) Hacienda La Puente Valley Vocational School, City of Industry, California

(4) Riverside City College, Riverside, California

(5) Pasadena City College, Pasadena, California

(6) San Diego Community Colleges, San Diego, California

(7) California State University, Northridge, California

(8) Santa Ana College, Santa Ana, California

(9) Community College of Denver, Denver, Colorado

(10) Gallaudet College, Washington, D.C.

(11) St. Petersburg Junior College, Clearwater, Florida

(12) Northern Illinois University, DeKalb, Illinois

(13) Iowa Western Community College Council Bluffs, Iowa

(14) Johnson County Community College Shawnee Mission, Kansas

(15) Jefferson County Area Vocational School, Jeffersontown, Kentucky

(16) Delgado Vocational Technical Junior College, New Orleans, Louisiana

(17) Genesee Community College, Flint, Michigan

(18) State Technical Institute and Rehabilitation Center, Plainwell, Michigan

(19) St. Paul Technical Vocational Institute St. Paul, Minnesota

(20) National Technical Institute for the Deaf, Rochester, New York

(21) Columbus Technical Institite, Columbus, Ohio

(22) Community College of Philadelphia, Philadelphia, Pennsylvania

(23) Tennessee Temple Schools, Chattanooga, Tennessee

(24) Eastfield College, Mesquite, Texas

(25) Lee College, Baytown, Texas

(26) Tarrant County Junior College, Hurst, Texas

(27) Utah State University, Logan, Utah

(28) Seattle Community College, Seattle, Washington

PSYCHIATRY FOR DEAF PERSONS

The material in this section describes on-going work in three of the four psychiatric programs for deaf people in the United States. Some work, also, has been done to establish programs at the Texas State Hospital, Austin, and at the New Hampshire State Hospital in Concord, and in the State of Illinois but reports on these efforts are not presently available. Similar programs are in effect in England, Denmark, Yugoslavia, Norway and Israel.

References to literature in the area of psychiatry and the deaf are listed in this section together with a tabulation of pertinent grant activities.

GENERAL SURVEY AND NEW YORK STATE PROGRAM

by John D. Rainer, M.D., and Kenneth Z. Altshuler, M.D.*

In the past fifteen years there has been a slow but steady growth in the concern for the psychiatric problems of the deaf person and in the provision of psychiatric services to the deaf. This development came about when the need for such services was finally recognized by vocational rehabilitation agencies, by educators, and by deaf persons; it was aided by the growing realization of the importance of expert knowledge and the lessening of the stigma formerly attached to psychiatric treatment. At the same time a number of psychiatrists were attracted to the field, overcoming the obstacles to communication that previously had frightened their colleagues away. They soon found a particular satisfaction in their efforts to reach, understand, and help deaf persons who needed psychiatric attention and in providing them with psychiatric services at least equal in quality, scope, and effectiveness to those available to the population at large.

The first psychiatric research and demonstration project for the deaf was begun in New York State in 1955. It was directed by the late Dr. Franz J. Kallmann who saw the potential of combining a research project and a clinical program involving mental health and adjustment problems of adults who had been profoundly deaf since birth or early childhood. His decision to put the resources of the Department of Medical Genetics of the New York State Psychiatric Institute and the New York State Department of Mental Hygiene behind the first mental health project for the deaf arose from a background of many years' experience in genetic counseling to families with a profound congenital defect, as well as from his research into the etiologic and contributing factors in mental illness. It followed a series of conferences with the Social and Rehabilitation Service, U.S. Department of Health, Education and Welfare, in which the psychiatric blocks to effective vocational rehabilitation became evident.

*From the Mental Health Services for the Deaf, New York State Psychiatric Institute and Rockland State Hospital – Chief of Psychiatric Research, Medical Genetics (Dr. John D. Rainer) – Chief of Mental Health Services for the Deaf (Dr. Kenneth Z. Altshuler). Mailing address: 722 W. 168 St., New York, N.Y. 10032.

A great deal of groundwork had to be done first. A staff versed in psychiatry and psychology, demography, statistics, and genetics went about determining the size and structure of the deaf population, its patterns of social and family adaptation, and the type and distribution of neurotic and psychotic disorder to be found; at the same time it was developing experience in the psychiatric treatment of deaf adolescents and adults in its newly-established outpatient clinic.(1)

Eight years later in response to the established need an in-patient program was set up with a 30-bed ward for the intensive treatment of psychiatric illness requiring hospital stay (2). Since then the program has moved into the area of prevention and rehabilitation, with consultation and counseling in a residential school on the one hand, and a half-way house and community program for hospital and clinic patients on the other (3). The staff includes psychiatrists, psychologists, social workers, rehabilitation counselors, occupational instructors, teachers, nurses, and attendants – all capable of manual communication.

Supported originally by a series of grants from the Social and Rehabilitation Service, this comprehensive program is now a permanent unit under New York State auspices, and has found – indeed, often has inspired – counterparts elsewhere in this country and abroad. Among these are the Mental Health Services for the Deaf at Langley Porter Institute, San Francisco (4); the Mental Health Program for the Deaf at St. Elizabeths Hospital, Washington; a program in Illinois stemming from a previous investigation conducted at Michael Reese Hospital in Chicago (5); and an increasing number of programs newly arising to meet the needs in other states. Two National Conferences helped to stimulate thought and action in this area, one for psychiatrists (6), one for other mental health professionals (7). These were held in 1967 and 1968 under the sponsorship of the New York group, the first one together with the NYU Center for Deafness Rehabilitation.

It should also be noted that in England (8), Denmark (9), Norway (10), and Yugoslavia, psychiatric programs for the deaf have gotten underway, with many useful contacts and visits between their directors and the early programs in the United States.

Along with the accumulation of knowledge – theoretical, technical and organizational – and the provision of services, the needs still unmet include the training of professional workers, including deaf professionals, for new programs, the extension of psychiatric programs to children and research on the first three years of life, and further work in forensic psychiatry, marital counseling, and group methods. With the success of the existing programs well documented in the various reports referred to below, there is much work still be be done if the psychiatric needs of deaf people everywhere are to be met.

REFERENCES

1. Rainer, J. D., K. Z. Altshuler and F. J. Kallmann, eds., with assistance of W. E. Deming, *Family and Mental Health Problems in a Deaf Population;* 2nd ed., Springfield, Ill. Charles C. Thomas, 1969.

   Written for psychiatrists and psychologists, demographers and geneticists, teachers and rehabilitation workers, this volume includes contributions by twelve distinguished authors in the above fields. It is based on the experience gained in the first research and demonstration project dealing with the psychiatric aspects of

deafness. Among the topics covered are: Historical Survey of Mental Health Services; Demographic Data on the Deaf, Marriage and Fertility Statistics; Genetic Aspects of Deafness, Twin Studies; Adjustment Patterns–Sexual and Family, Vocational and Social; Delinquency and Crime; Early Mental Development; Psychiatric Diagnosis in the Deaf; Outpatient Services; Psychological Testing; Psychotherapy with the Deaf, Types and Applications; Deaf Patients in Mental Hospitals; Deafness and Schizophrenia; Deafness and Depression; Preventive Mental Health Planning.

2. Rainer, J. D. and K. Z. Altshuler, *Comprehensive Mental Health Services for the Deaf;* New York, New York State Psychiatric Institute, 1966.
   This book describes the organization of psychiatric services for the deaf in New York State. It covers such topics as organization of psychiatric services, recruitment and staffing, and referral, selection, and evaluation of patients. Ward facilities and procedures are described, as well as goals and method of treatment, including group therapy, occupational therapy, and vocational adjustment. Outpatient services are also described in detail. Tables are provided describing patients by type of deafness, age of onset, educational level, and means of communication used.

3. Rainer, J. D. and K. Z. Altshuler, *Expanded Mental Health Care for the Deaf: Rehabilitation and Prevention;* New York, Research Foundation for Mental Hygiene, Inc., 1970.
   This third volume from the New York State group describes the extension of psychiatric services into the areas of prevention at the school level, and rehabilitation in the community. School consultations, adolescent group discussions, parent groups, and training of teachers and houseparents comprise the former activities. For the rehabilitation of in- and outpatients, aftercare, social work services, and a halfway house are provided. Data on the prognosis and outcome under this program are provided.

4. Schlesinger, H. S. and K. P. Meadow, *Deafness and Mental Health, A Developmental Approach;* San Francisco, Langley Porter Neuropsychiatric Institute, 1971.
   In the framework of a developmental model of human growth, the group in San Francisco describes a survey of mental health in a residential school, evaluation procedures in a psychiatric clinic, and school consultation services. The volume also includes basic research findings on the self-image and the social, communicative, and intellectual functioning of deaf students at day and residential schools, and on the development of communicative competence. Case histories throw new light on the role of manual communication in early childhood.

5. Grinker, R. R. et al, *Psychiatric Diagnosis, Therapy and Research on the Psychotic Deaf;* Washington, U.S. Dept. of HEW, Social and Rehabilitation Service, 1969.
   This volume describes a three year mental health program at the Michael Reese Hospital in Chicago including research and service aspects. Besides describing inpatient and outpatient treatment, it includes studies on the deaf child with description of a preschool nursery, and experimental studies on cognitive processes in deaf and hearing subjects. Dr. Grinker provides an authoritative summary.

6. Rainer, J. D. and K. Z. Altshuler, *Psychiatry and the Deaf;* Washington, U.S. Dept. of HEW, Social and Rehabilitation Service, 1968.
   In 1967, the first workshop was held for psychiatrists from all over the United States working to some degree with deaf persons. This book is a report of that

workshop; it describes the New York program, in practice and in its theoretical implications, and includes as well descriptions of programs in California, Washington, D.C., Michigan, Illinois, and Montana. Questions and answers are recorded.

7. Altshuler, K. Z. and J. D. Rainer, *Mental Health and the Deaf: Approaches and Prospects;* Washington, U.S. Dept. of HEW, Social and Rehabilitation Service, 1969.
A National Conference on Mental Health Services for Deaf People was held in Houston in 1968. The aim was to bring together all professional disciplines. This book records workshop discussions in the fields of education, psychology, rehabilitation, religion, and social work and contains keynote addresses by prominent leaders in each of these fields; as well as audiology. A valuable chapter describes the government's role in funding mental health services for the deaf.

8. Denmark, J. C. and R. W. Eldridge, *Psychiatric Services for the Deaf;* Lancet, 2:259, 1969.
This paper describes the first British mental health service for the deaf, a 26-bed, inpatient unit in the North of England. The analysis of the first 170 patients reveals the difficulties of diagnosis and the problems of communication dating back to early childhood.

9. Remvig, J., *Deaf-mutism and Psychiatry;* Acta Psychiat. Scand. (Suppl. 210), 1969.
A cross sectional and longitudinal study of deaf patients in mental hospitals in Denmark indicates longer hospital stay, about the expected number of schizophrenic patients with no increase in paranoid psychoses, impulsive symptomatology, and the presence of hallucinations. Detailed case studies provide illuminating detail, and an interesting chapter speculates on the nature of auditory hallucinations.

10. Basilier, T., *Commentary on the Mental Health Needs of Deaf People;* In International Research Seminar on the Vocational Rehabilitation of Deaf Persons (Ed. G. T. Lloyd), Washington, U.S. Dept. of HEW, Social and Rehabilitation Service, 1969.
The Scandinavian experience is described, including the author's involvement with a special school for deaf children with multiple handicaps in Oslo. The volume contains many other articles and discussions on mental health needs and services for deaf people. As in the two proceding references, these discussions point to the similarity of findings and needs all over the world.

MENTAL HEALTH PROGRAM FOR THE DEAF

Saint Elizabeths Hospital, Washington, D.C.

Saint Elizabeths Hospital, a Federal mental hospital located in Washington, D.C., under the direct control of the National Institute of Mental Health, carries out special mental health programs for deaf people. The Mental Health Program for the Deaf at this hospital is not separately funded but is supported entirely out of the hospital's operating budget which comes from annual Federal appropriations. Saint Elizabeths Hospital was created by an Act of Congress in 1855 and serves residents of the District of Columbia, and several categories of Federal beneficiaries.

The Mental Health Program for the Deaf at Saint Elizabeths Hospital is a pioneering effort which integrates services, training, research, and combined communication methods to provide comprehensive mental health services to deaf people. It developed from a single activity of group psychotherapy in 1963 conducted for a small group of deaf patients living in different sections of the hospital, to a comprehensive mental health program for deaf patients. The full-time staff are from the following fields: psychiatry, psychology, rehabilitation, and nursing. There also are volunteers, consultants, clerical staff members, and a full-time community education and liaison officer. In addition, staff members from some 13 different disciplines at the hospital give about 20 hours per week to the Program.

The Program is designed to provide comprehensive mental health services for the mentally ill deaf. It includes inpatient, outpatient, partial hospitalization, and 24-hour-a-day emergency services. Also, consultation, education, and rehabilitative services are provided, and the Program serves as a resource for training and research. It is hoped that further research will lead to new insights in the whole field of mental health and illness.

Since its early beginnings, the Program has served as a training base for sub-professionals, professionals, and students. It also has been a resource for preparing and developing staff to contribute to the full range of mental health services to the deaf. Five different groups for which training has been provided can be identified: (1) staff members (including interns and residents) have received training in mental health services to deaf people; (2) formal training (internships and practicums) has been provided for deaf and hearing college students (graduate and undergraduate) to satisfy curriculum requirements; (3) psychiatric mental health nursing training is given for professional nursing students to satisfy curriculum requirements; (4) on-the-job training is provided for student summer employees; (5) volunteers have received on-the-job training; and more activities are being added. Training workshops are conducted for special groups such as vocational rehabilitation counselors, nursing personnel, college or university students, etc. More training can be made available as the need arises.

Information about the Program can be obtained by writing:

Luther D. Robinson, M.D.
Acting Superintendent
Saint Elizabeths Hospital
Washington, D.C. 20032

or

Doris L. Dickens, M.D.
Assistant Director
Mental Health Program for the Deaf
Saint Elizabeths Hospital
Washington, D.C. 20032

MENTAL HEALTH SERVICES FOR THE DEAF

San Francisco

Mental Health Services for the Deaf of San Francisco is a multi-purpose, multi-disciplinary center combining basic and applied research; direct mental health services for deaf adults, children and their families; and consultation, collaboration, and education for agencies and professionals serving the deaf community. The Project is affiliated with the Langley Porter Neuropsychiatric Institute and the University of California in San Francisco. Financial support has come from the Social and Rehabilitation Service, the Maternal and Child Health and Crippled Children's Services, and the Handicapped Children's Early Education Program of the U.S. Office of Education – all under the Department of Health, Education and Welfare in Washington, D.C. In addition, generous support of the clinical program has been provided by the San Francisco Foundation, the Rosenberg Foundation and the Belknapp Fund, all of San Francisco.

Hilde S. Schlesinger, M.D., a child and community psychiatrist, is project director. Kathryn P. Meadow, Ph.D., a research sociologist, is assistant director. In addition to Dr. Schlesinger, the clinical staff includes two part time psychiatrists, a psychiatric nurse, a counselor-therapist (who is deaf), four part time psychiatric social workers and a part time speech therapist. The research division, under Dr. Meadow, employs two research assistants and two videotape technicians. Three secretaries round out the staff.

Four research projects have been initiated at Mental Health Services for the Deaf. Project No. 1 is a study of the development of social, cognitive, and communicative skills in preschool deaf children, with emphasis on parental response to deafness, parental self esteem, and parental flexibility as these affect the child. Project No. 2 is a study of the manual and oral language acquisition of deaf children, utilizing observational methods developed for cross cultural study of acquisition of communicative competence. Project No. 3, a study of the self image and the social, intellectual, and communicative functioning of a group of deaf students attending day schools has been completed. Project No. 4 is a study of emotional disorders which interfere with learning, and their reduction through early psychiatric intervention. This last project involves work with 24 deaf pre-schoolers, their parents, and their teachers. The production of two video tapes which can be used for parent and teacher orientation to mental health problems of deafness is a major goal.

Detailed description of the purpose, activities and goals of Mental Health Services for the Deaf during the first four years of operation is described in the forthcoming book by Dr. Schlesinger and Dr. Meadow: *Sound and Sign: Childhood Deafness and Mental Health*. It will be published by the University of California Press in the fall of 1972.

Mailing address:
Mental Health Services for the Deaf
Langley Porter Neuropsychiatric Institute
401 Parnassus Avenue
San Francisco, California 94122

GRANT ACTIVITY IN THE AREA OF MENTAL HEALTH

Grant No.:
14-P-55053/2-01
(RD-3310-SD)

Project Title: Essential Aspects of Deafness

Duration:
1971-1975

Sponsoring Institution: New York State Psychiatric Institute, 722 W. 168th Street, New York, New York 10032

Total Amount:
$260,000 (4 years)

Project Director: John D. Rainer, M.D.

Description: The purpose of this research is to:

(1) Test whether early total deafness (and the late or incomplete development of language that accompanies it) leads to certain personality characteristics across cultures and regardless of socio-cultural influences. These characteristics are: Impulsive behavior, tendency toward short-sighted action with little planning, and a relative lack of internal (superego) controls and constraints. The study designed to answer this question includes converging psychiatric and psychological approaches, the execution of which will serve a number of important subsidiary goals.

In the psychiatric, epidemiological section, the project is to:

(2) Locate the mentally ill deaf throughout Yugoslavia and develop psychiatric, auditory, and vocational rehabilitation services for them;

(3) Compare details of the clinical pictures, forms of presentation and the course of mental disorders in deaf Yugoslavian and American patients. The comparison should reveal, for example, whether the "impulsive, aggressive, bizarre behavior," found in American deaf psychiatric patients regardless of diagnostic category, and the relative absence of severe, psychotic depressions are typical of deaf patients elsewhere, despite the different cultural expectations and conditions under which they were raised; and

(4) Establish an outpatient clinic for deaf psychiatric patients in Belgrade and afford consulting services to schools for the deaf. The feasibility of establishing a small inpatient treatment unit in Yugoslavia will also be tested during the latter part of the project.

The psychological section is designed to:

(5) Gather data bearing on the primary question and at the same time test the useability of certain psychological tests across cultures and with the deaf.

The fruition of this collaborative study should also yield a prototype for other underdeveloped countries in the establishment of effective interdigitation in research and service between such facilities as the present Yugoslavian Audiological and Vocational Rehabilitation Center for the Deaf, special in and outpatient psychiatric facilities and far-flung psychiatric hospitals.

The American investigators are responsible for the overall research design, gathering the American data, designing the appropriate forms and statistical programs, and for consultation and supervision and training of the Yugoslavian investigators so that the data will be gathered through identical procedures and be comparable in all respects. Funds in the continuation application are for the American segment only and are not for any of the service aspects (Yugoslavian) of the project.

Grant No.:
14-P-55270/9-03
(RD-2835-S)

Project Title: Mental Health Services for the Deaf: A Program of Research and Services

Duration:
3/1/68-2/28/71

Sponsoring Institution: Langley Porter Neuropsychiatric Institute, 401 Parnassus Avenue, San Francisco, California 94122

Total Amount:
(Not reported)

Project Directors: Hilde S. Schlesinger, M.D. and Kathryn P. Meadow, Ph.D.

Description: The project consisted of two separate but related areas: (1) the actual research, clinical and consultative services for which funds were made available by the Social and Rehabilitation Service; and (2) a developing conceptualization of a unified developmental approach to both research and services needed in the attempt to solve the mental health problems related to deafness.

Three research projects were initiated under this grant: (1) A developmental study of communicative competence; (2) a study of language acquisition of deaf children exposed to manual communication; and (3) a replicative study of the self-image, the social and communicative functioning of deaf children attending day schools.

The project also provided mental health services for deaf individuals and those in contact with them. These included direct clinical services, consultation with professionals and with community agencies, and mental health education.

Final Report: *Sound and Sign: Childhood Deafness and Mental Health.*

Grant No.:
H-331

Project Title: Family Interaction, Language, and Deafness

Duration:
8/1/70-8/1/75

Sponsoring Institution: Langley Porter Neuropsychiatric Institute, 401 Parnassus Avenue, San Francisco, California 94122

Total Amount:
(Not reported)

Project Directors: Hilde S. Schlesinger, M.D. and Kathryn P. Meadow, Ph.D.

Description: Two studies are underway, both dealing with problems of language acquisition and parent-child interaction in families that include young deaf children. (1) First is a developmental study of forty deaf children over a five-year period (the study began when the children were between the ages of 2½ and 4). Developmental rate of communicative competence is being investigated, in relationship to mutual pleasure and reciprocal understanding that exist in the parent-child relationship. The importance of symbol formation in childhood socialization for *both* cognitive and expressive development is being studied, primarily through the use of videotaped segments of parent-child interaction. (2) A second linguistic study describing the acquisition of language by four young deaf children exposed to both American Sign Language and standard spoken English within the home. Two of the children are children of hearing parents who have become proficient in sign language after their children's deafness was diagnosed. Analysis of videotapes focuses primarily on growth of vocabulary, grammar and syntax, within the context of maternal style in language socialization. The children ranged in age from eight months to three years when the research was initiated.

Grant No.:
OEG-0-71-4454 (616)

Project Title: Mental Health Principles and Early Education for Deaf Children

Duration:
7/1/71-7/1/74

Sponsoring Institutions: Langley Porter Neuropsychiatric Institute, 401 Parnassus Avenue, San Francisco, California 94122 and University of California Medical Center, Los Angeles, California 90024

Total Amount:
(Not reported)

Project Directors: Hilde S. Schlesinger, M.D. and Kathryn P. Meadow, Ph.D.

Description: Delivery of direct mental health services to emotionally disturbed deaf children and their parents plus provision of indirect mental health services (consultation) to teachers of deaf preschoolers. Goals include the reduction of emotional disorders which interfere with learning through early psychiatric intervention. The production of two videotapes which can be used for parent and teacher orientation to mental health problems of deafness is a major activity. Emotionally disturbed preschoolers (ages 2-5) constitute the target population.

LITERATURE

Altshuler, Kenneth Z., *Studies of the Deaf: Relevance to Psychiatric Theory*, American Journal of Psychiatry, 127:11, May 1971.

Mental Health and the Deaf: Approaches and Prospects. Edited by Kenneth Z. Altshuler, M.D. and John D. Rainer, M.D., Published by the U.S. Department of Health, Education and Welfare, Rehabilitation Services Administration, Washington, D.C.

Psychiatry and the Deaf, Edited by John D. Rainer, M.D. and Kenneth Z. Altshuler, M.D., Published by the U.S. Department of Health, Education and Welfare, Social and Rehabilitation Service, Washington, D.C.

Rainer, John D., and Kenneth Z. Altshuler, *Comprehensive Mental Health Services for the Deaf*, Dept. of Medical Genetics, New York State Psychiatric Institute, Columbia University, 1966.

Rainer, John D., and Kenneth Z. Altshuler, *A Psychiatric Program for the Deaf: Experiences and Implications*, American Journal of Psychiatry, 127:11, May 1971.

PART II

DEPARTMENT OF HEALTH, EDUCATION AND WELFARE ACTIVITIES

THE REHABILITATION SERVICES ADMINISTRATION
Social and Rehabilitation Service

By EDNA P. ADLER
Consultant, Deaf & Hard of Hearing, Office of Communicative Disorders

The Rehabilitation Services Administration, which is a cooperating agency of the Social and Rehabilitation Service, U.S. Department of Health, Education, and Welfare, operates under the authority of the Vocational Rehabilitation Act, as amended.

The State-Federal vocational rehabilitation program works with people disabled by mental retardation, mental illness, alcoholism, drug addiction, amputations and other orthopedic impairments, speech and hearing disorders, blindness, deafness, heart disorders, epilepsy, behavioral disorders, cancer, stroke, tuberculosis, congenital deformities and neurological disabilities, among many others. Rehabilitation plans are developed to enable the individual to pursue a gainful occupation, and many kinds of services are incorporated into the plan as needed to develop the vocational capacity.

The Rehabilitation Services Administration works jointly with other Social and Rehabilitation Service agencies in attacking specific community problems. Rehabilitation agencies have numerous cooperative agreements and programs on the national and State levels with other governmental and voluntary organizations.

A Social and Rehabilitation Service Regional Commissioner in each of the ten Health, Education, and Welfare regions supervises all programs and activities of the Service in his region. An Associate Regional Commissioner for Rehabilitation Services is the direct RSA representative in each region to improve the partnership with State and local government, and with voluntary organizations.

The State-Federal program of vocational rehabilitation provides a wide range of rehabilitation services for handicapped people. Basic services include:

Comprehensive evaluation, including medical diagnosis, to learn the nature and degree of disability and to help evaluate the individual's work capacity.

Counseling and guidance in achieving good vocational adjustment.

Medical, surgical, psychiatric, and hospital care and related therapy, to reduce or remove disability.

Physical aids such as artificial limbs and other prosthetic and orthotic devices needed to increase work ability.

Training for a vocation, and pre-vocational and personal adjustment training.

Maintenance and transportation during rehabilitation.

Equipment, tools, and licenses for work on a job or in establishing a small business.

Reader services for the blind and interpreter services for the deaf.

Recruitment and training services to provide new careers for handicapped people in the fields of rehabilitation and other public service areas.

Construction or establishment of rehabilitation facilities.

Service to families of handicapped people when such services will contribute substantially to the rehabilitation of the handicapped client.

Placement in a job suited to the individual's physical and mental capacity.

Post-placement follow-up for satisfactory adjustment to a job.

PROGRAM AIMS

The overall objective of the Rehabilitation Services Administration is to provide leadership and the means for furnishing vocational rehabilitation services to all the disabled who need and can benefit from them. Within this framework, the main objectives of the Rehabilitation Services Administration are:

1. To help the States establish and maintain vocational rehabilitation programs of services for the disabled.

2. To increase rehabilitation knowledge and techniques and their application in practice.

3. To increase the supply of trained rehabilitation manpower which continues to be in severe shortage.

4. To increase and improve the physical plants that serve the disabled, including rehabilitation facilities and workshops, training settings, and other special facilities.

5. To educate the general public and specific public such as employers, researchers, public and voluntary agencies, in vocational rehabilitation of the disabled, and to disseminate available rehabilitation knowledge.

LEGISLATIVE HISTORY

Beginning with the Smith-Fess Act in 1920 which authorized States participating in the first vocational rehabilitation grant-in-aid program to provide counseling, job training, orthotic and prosthetic appliances and job placement for disabled veterans and persons disabled in industry, the Congress has enacted numerous other laws which have increased and expanded the program base to its present broad scope of services.

The Social Security Act of 1935 provided permanent authorization for continuance of the program with appropriations for increasing and strengthening its operation.

The 1943 Amendments to the original Vocational Rehabilitation Act broadened the program in authorizing 1) medical, surgical, and other physical restoration and

services to eliminate or reduce disabilities; 2) services for the mentally ill and the mentally retarded; and 3) entry of the separate State agencies serving the blind.

The Vocational Rehabilitation Act Amendments of 1954 were a modernizing move which provided a new financing formula for the States, a new system of project grants to State agencies, and authority for research, demonstration, and training activities.

The 1965 Act, otherwise known as Public Law 89-333, authorized new and expanded vocational rehabilitation programs to make service benefits available to all the disabled who need and can use them and extended length of professional training from 2 to 4 years to increase the number of available doctoral level people to mount and conduct programs. Increase in the Federal Government share of the cost of basic services to a flat 75 percent was a significant feature of the 1965 Act. Support for special State agency projects to develop innovative efforts to meet the needs of severely disabled people, and the extension of vocational rehabilitation services that will lead to ". . .a gainful occupation more consistent with his capacities and abilities" are other principal features of this forward-looking legislation.

The enactment of the 1967 Vocational Rehabilitation Amendments which authorized the establishment of the first national training facility for deaf-blind people and greater Federal support of vocational rehabilitation service for migratory workers, carried further the charge of the 1965 Acts for the creation of innovative services for severely disabled persons. Highlights of 1968 legislation included authorization of projects with industry and an increase from 75 to 80 percent in the Federal share of support for the basic program of rehabilitation services provided by the states.

Authorizations now being weighed by Congress which pertain to deaf people include: 1) the development and implementation of continuing plans for meeting the current and future needs of severely handicapped individuals; and 2) the establishment and operation of Comprehensive Rehabilitation Centers for Deaf Youths and Adults to provide for a broad program of service, research, training and related activities in the field of rehabilitation of low (under) achieving deaf people.

THE PROGRAM FOR DEAF PEOPLE

Vocational rehabilitation is the main public service program that is actively concerned with the welfare of deaf adults. In spite of the circumscribed nature of vocational rehabilitation service to deaf people in the past, which had its roots for the most part in personnel and facility shortages, the program has been an open door to greater opportunity for thousands of deaf individuals. The challenge of P.L. 89-333 and the activity related to current Statewide planning of comprehensive vocational rehabilitation services for the disabled are doing much to focus greater attention on the special needs of deaf people.

In a population of over 100,000 deaf people who need or can benefit from vocational rehabilitation services, upwards of 7,500 are being rehabilitated yearly. This number is expected to increase appreciably as recruitment of trained personnel eases the continuing severe manpower shortage and as more facilities for deaf people are established. Five professional training programs are helping to supply trained counselors, social workers, teachers, psychologists, psychiatrists, and speech pathologists and audiologists, but many more will be needed as the States complete their planning for more rehabilitation programs for deaf people.

New concepts of service to reduce the handicapping aspects of deafness emphasize 1) language training to offset the serious communication limitations of many deaf people; 2) recruitment and training of interpreters to increase communication effectiveness in deaf people; 3) diagnosis, evaluation and adjustment training programs for the multiply handicapped; 4) special mental health programs; 5) community counseling centers; 6) vocational training programs for the deaf in existing community facilities; and 7) new career opportunities.

Interpreting for deaf people which was authorized as a rehabilitation case service by the 1965 Vocational Rehabilitation Amendments is being used by State agencies to effect better service and to make more training opportunities possible.

The deaf population of approximately 450,000 individuals is and is not a cross section of the general population. The great majority of deaf people have normal intelligence, strength, and mobility but few aspire to or succeed in noteworthy achievement in high-level occupations. Many deaf people make a rapid rise to a vocational plateau beyond which few go further. Variable reasons ascribed to this situation are lack of opportunity for training, an inadequate public image, and a pervasive attitude of low aspiration held by those who work with them. The disproportionate number of deaf persons, as compared to normally hearing persons who remain in skilled or semi-skilled work rather than strive for high level callings for which many qualify, urges that the Rehabilitation Services Administration implement programs to identify and train qualified deaf people to make the worthy contributions for which they have potential.

In light of the above facts, vocational rehabilitation is seen as a very fertile area for research to devise service techniques that will cultivate and complement the needs and capabilities of deaf persons. Correspondingly, professional training programs are needed to provide competent staff to conduct purposeful research that will lead to demonstrations of effective service and training processes for deaf people. The replication of successful research demonstrations by the States requires that a host of trained personnel be available.

The record of Social and Rehabilitation Service research and demonstration programs and professional training programs contained in this document is impressive evidence of commitment and deep concern for the welfare of deaf people.

LEGAL BASE FOR RESEARCH AND TRAINING

Research and professional training in deafness had their beginning in 1957, three years after the enactment of Public Law 83-565, otherwise known as the Vocational Rehabilitation Act of 1954, which authorized a comprehensive Research and Training grant program. Statutory authority is contained in Section 4.(a) (1) of the Act and reads as follows:

> "... for paying part of the cost of projects for research, demonstrations, training and traineeships, and projects for the establishment of special facilities and services, which, in the judgment of the Secretary of Health, Education, and Welfare, hold promise of making a substantial contribution to the solution of vocational problems common to all or several States."

Section 4.(d) (1) makes the following provisions:

> ". . . for a National Advisory Council on Vocational Rehabilitation consisting of the Secretary, for his designee who shall be Chairman, and twelve members appointed without regard to Civil Service laws by the Secretary. The twelve appointed members shall be leaders in fields concerned with vocational rehabilitation or in public affairs, and six of such twelve shall be selected from leading medical, educational or scientific authorities who are outstanding for their work in the vocational rehabilitation of physically handicapped individuals. Three of the twelve shall be persons who are themselves physically handicapped . . ."

Section 4.(d) (2) authorizes the Council

> "to review applications for special projects submitted to the Secretary under this section and recommend to the Secretary for grants under this section any such projects or any projects initiated by it which it believes show promise of making valuable contributions to the vocational rehabilitation of physically handicapped individuals."

PROCEDURES

Among others, consultants to the hearing impaired in the Office of Deafness and Communicative Disorders within the Rehabilitation Services Administration have an important role in instrumenting the provisions outlined in these Sections. They promote and help to design, and review, and evaluate research and demonstration projects that will contribute to increased understanding of the rehabilitation potential of deaf people. In the development of sound and productive projects which meet the established criteria and the rehabilitation needs of deaf people, effictive treatment in review and evaluation by the Council is assured. Preliminary technical evaluation of the projects by the Sensory Study Section, a group of officially appointed nongovernment experts in the field of sensory disabilities, and an executive secretary who is a professional member of the staff, is helpful in suggesting improvisations and in identifying needs and problems of deaf people which require certain and specific research.

The comprehensive Social and Rehabilitation Service Research and Demonstration grant program provides a liberal framework for research and demonstration projects. Planning grants provide opportunity to test pre-set theories and hypotheses and to develop effective research patterns for full-scale projects. Demonstration of research over a period of years helps to establish needed prototypes. Continued development of prototypes aids in strengthening and refining innovative rehabilitation service techniques. This process is particularly helpful in developing programs for deaf people who are a thinly scattered minority population with highly specialized service needs.

The opportunity provided by the Vocational Rehabilitation Amendments of 1954 for mounting professional training programs in deafness to make traineeships available for persons interested in working with deaf people has been an important factor in implementing more effective research and in establishing more and better service programs for the deaf. Research and professional training are critically interdependent in the area of deafness in that communication and deep knowledge of deafness are indispensable to successful service programs.

RESEARCH AND DEMONSTRATION PROGRAMS IN THE AREA OF DEAFNESS

Research in deafness sponsored by the Social and Rehabilitation Service is concerned with the processes of living that present barriers to many deaf persons. It is distributed broadly in the areas of occupational conditions of the deaf, communication disorders, and the psychosocial problems related to deafness.

In the first category, unemployment and underemployment of deaf people are principal research targets. One national and two regional surveys have been important fact finding instruments in determining the employment range of deaf individuals and the conditions in which they work. In turn, this study has stimulated creative research in vocational rehabilitation procedures, vocational exploration, and employer attitudes. An example of research in vocational exploration is the theater for the deaf project which is demonstrating excitingly new employment for deaf people in the theater arts. Another example is an investigation of Civil Service examination procedures that will help to open more Federal employment to deaf people. A report on the occupational adjustment of professional deaf people, published in 1967,* has important guidelines for rehabilitation counselors in optimum training and employment opportunities for deaf people with high potential. Innovative service techniques for multiply handicapped deaf people are being demonstrated at special diagnosis, evaluation, and adjustment training programs located at community workshops and comprehensive vocational rehabilitation centers. In a cooperative effort with the Office of Education, three vocational training programs for deaf people at vocational-oriented junior colleges are demonstrating how such schools can effectively train qualified deaf persons for appropriate employment at minimal cost.

The communication disorders of deaf people which range from inadequate speech to severe language limitations reflected in poor reading and creative writing ability, are the subjects of numerous studies. New focus on language training for deaf babies and pre-school age deaf children is stimulating creative research in this previous neglected area. Manual English, an improved form of manual communication, has been used successfully as a language training tool at research programs for severely handicapped deaf people. Interpreting for deaf people, a long unrecognized art, is receiving deserved research attention. The eventual status of interpreting as a professional calling will be very helpful to deaf people who need this service. Special devices that enable deaf people to make independent telephone calls are being demonstrated as a research effort. The effective demonstration of speech indicators, dialcode, electrowriters, and teletypewriters is reducing the impediment to distance communication for deaf people.

Investigation of the psychological and social aspects of deafness have been concerned with special mental health care for deaf people, genetics, community service, and the development of a more responsive deaf community for better opportunities, and an improved public image of deaf people. The research conducted by the New York State Psychiatric Institute has effectively demonstrated techniques whereby deaf people may receive psychiatric services which, prior to this work, had not been available anywhere. State operation of this program is providing a pattern of other States. Community service centers for deaf people in metropolitan areas are demonstrating the need for coordinating, referral, evaluative, and counseling services for the better rehabilitation of

*"Deaf Persons in Professional Employment," Charles C. Thomas, Publisher, Springfield, Illinois.

the deaf. The response of deaf people to these services is indicating that centers are needed in all metropolitan areas. Research has helped to develop a format for a training course in safety for deaf drivers which is bringing important public attention to the good driving habits of deaf people. The Council of Organizations Serving the Deaf has brought together voluntary and professional organizations of and for the deaf to share leadership and action in the development of public programs for deaf people. The heavy involvement of deaf leadership in this research is an important image builder.

An ongoing National Census of the Deaf will provide accurate figures on the number of deaf people and make it possible to plan better for effective programs when and where they are needed.

PROGRAM LISTINGS
RESEARCH AND DEMONSTRATION
PROGRAMS IN THE AREA OF DEAFNESS

For descriptions of programs active prior to 1968 see DEAFNESS, Journal of Rehabilitation of the Deaf, Monograph No. 1, March 1969.

In the listings which follow, those marked with an asterisk have been completed.

Grant No.:
RD-1299-S*

Project Title: Research on Some Behavioral Aspects of Deafness

Duration:
1964-1969

Sponsoring Institution: Institute for Research on Exceptional Children, University of Illinois, 6003 West Nevada, Urbana, Illinois 61801

Total Amount:
$280,625

Project Director: Stephen P. Quigley, Ph.D.

Description: Research on the behavioral aspects of deafness and the significance of these factors in the rehabilitation of deaf persons. (See also Grant RD-2922.)

Special Reports: *1. Deaf Students in Colleges and Universities*
2. The Influence of Finger-spelling on the Development of Language, Communication, and Educational Achievement in Deaf Children
3. Supervisors and Supervision of Teachers of the Deaf

Grant No.: RD-1316-S*

Project Title: Auditory Rehabilitation Aspects of Stapes Surgery for Otosclerosis

Duration: 1964-1969

Sponsoring Institution: University of California Medical Center, Los Angeles, California 90024

Total Amount: $273,547

Project Director: Victor Goodhill, M.D.

Description: To study the auditory rehabilitation aspects of stapes surgery for otosclerosis.

Grant No.: RD-1484-S*

Project Title: Cognitive Structures Related to Verbal Deficiencies

Duration: 1964-1969

Sponsoring Institution: Catholic University of America, Washington, D.C. 20017

Total Amount: $116,177

Project Director: Hans G. Furth, Ph.D.

Description: To determine how and to what extent nonverbal concept learning contributes to the development of cognition in the deaf and other language-impaired individuals.

Grant No.: RD-1576-S*

Project Title: Deaf Adults in New England: An Exploratory Service Program

Duration: 1965-1968

Sponsoring Institution: Morgan Memorial, Inc., 95 Berkeley Street, Boston, Massachusetts 02116

Total Amount: $136,120

Project Director: Gordon B. Connor

Description: To determine how the vocational training of deaf adults can be performed effectively in a comprehensive work-training center established to serve all disability groups. (See also Grants RD-1304, RD-1520, RD-1932 and 14-55243-5.)

Grant No.: RD-1627-S*

Project Title: Interaction of Deaf and Hearing in Baltimore City, Maryland

Duration: 1965-1968

Sponsoring Institution: Catholic University of America, Bureau of Social Research, Washington, D.C. 20017

Total Amount: $189,222

Project Directors: Paul H. Furfey, Ph.D. and Thomas J. Harte, Ph.D.

Description: To study interactions between deaf and hearing persons in Baltimore, Maryland.

Grant No.: RD-1786-S*

Project Title: Hereditary Deafness in Man

Duration: 1966-1968

Sponsoring Institution: Johns Hopkins University School of Medicine, Baltimore, Maryland 21205

Total Amount: $70,208

Project Director: Bruce W. Konigsmark, M.D.

Description: To identify and define different types of hereditary deafness in man.

Grant No.: RD-1899-S*

Project Title: Delayed Feedback Audiometry

Duration: 1966-1969

Sponsoring Institution: Johns Hopkins University School of Medicine, Baltimore, Maryland 21205

Total Amount: $107,588

Project Director: Richard A. Chase, M.D.

Description: To investigate the effects of delayed auditory feedback of human vocalizations upon the control of speech muscular activity during infancy and early childhood; to develop new clinical techniques and instruments for improved detection and evaluation of hearing loss in preschool children.

Grant No.: RD-1904-S*

Project Title: Speech Identification as a Measure of Discrimination Loss

Duration: 1966-1969

Sponsoring Institution: Houston Speech and Hearing Center, 1343 Moursund Avenue, Houston, Texas 77025

Total Amount: $75,444

Project Directors: James Jerger, Ph.D. and Charles Speaks, Ph.D.

Description: To investigate a new speech identification procedure for measuring discrimination loss in hearing impaired adults; and to determine the extent to which speech discrimination ability can be modified by operant conditioning.

Grant No.: RD-1932-S

Project Title: An Experiment in Serving Deaf Adults in a Comprehensive Rehabilitation Center

Duration: 1966-1969

Sponsoring Institution: Arkansas Rehabilitation Service, 211 Broadway, Room 227, Little Rock, Arkansas 71901

Total Amount: $240,197

Project Director: Neal D. Little

Description: To investigate the feasibility of providing rehabilitation services to deaf adults within a comprehensive rehabilitation center. (See also Grants RD-1304, RD-1520, RD-1576 and 14-55243-5.)

Grant No.: RD-2050-S*

Project Title: Directory of Services for the Deaf in the United States, 1966, 1967, 1968 editions

Duration: 1966-1969

Sponsoring Institution: American Annals of the Deaf, Conference of Executives of American Schools for the Deaf, Florida Avenue, N.E., Washington, D.C. 20002

Total Amount: $68,300

Project Director: Powrie V. Doctor, Ph.D.

Description: To provide a comprehensive annual directory of services for the deaf in the United States. (See also Grants RD-1687 and 14-55081-1.)

Grant No.: RD-2128-S*

Project Title: Expanded Mental Health Care for the Deaf; Rehabilitation and Prevention

Duration: 1966-1969

Sponsoring Institution: Research Foundation for Mental Hygiene, Rockland State Hospital, Orangeburg, New York 10962

Total Amount: $206,708

Project Director: John D. Rainer, M.D.

Description: To demonstrate the value of halfway houses and day care programs for discharged psychiatric deaf patients, develop and test a preventive program, and provide training for professional personnel interested in specialized psychiatric services for the deaf.

Special Report: *Expanded Mental Health Care for the Deaf*

Grant No.: RD-2207-G*

Project Title: Comparison of Deaf and Hearing Workers in Aerospace Industry

Duration: 1967-1970

Sponsoring Institution: University of California, Los Angeles, 405 Hilgard Avenue, Los Angeles, California 90024

Total Amount: $97,506

Project Director: J. S. Felton, M.D.

Description: A study to compare injury, absence, termination rates, and job stability of deaf and hearing workers on similar jobs.

Grant No.: RD-2264-S

Project Title: Counseling and Community Services for the Deaf

Duration: 1967-1972

Sponsoring Institution: Pittsburgh Hearing Society, 313 Sixth Avenue, Pittsburgh, Pennsylvania 15222

Total Amount: $289,451

Project Director: S. B. Craig, D. Litt.

Description: To demonstrate the feasibility and effectiveness of a local hearing society establishing a comprehensive counseling and community referral service for the deaf in a metropolitan area.

Grant No.: RD-2266-S*

Project Title: Promoting Civil Service Employment of the Deaf

Duration: 1967-1970

Sponsoring Institution: D.C. Department of Vocational Rehabilitation, 1331 H Street, N.W., Washington, D.C. 20005

Total Amount: $118,370

Project Director: E. P. Benoit, Ph.D.

Description: To develop a broad program to promote the employment of deaf individuals in Civil Service jobs and to enhance their capabilities for promotion.

Grant No.: RD-2276-S*

Project Title: Measures of Loudness Response as Related to the Recruitment Phenomenon

Duration: 1967-1969

Sponsoring Institution: University of Southern California, University Park, Los Angeles, California 90007

Total Amount: $64,403

Project Director: V. P. Garwood, Ph.D.

Description: To investigate systematically the abnormal increase of sound in patients with sensorineural hearing loss which results in their inability to use hearing aids.

Grant No.: RD-2308-S*

Project Title: Language Development in Deaf Adolescents and Adults

Duration: 1967-1968

Sponsoring Institution: Clarke School for the Deaf, Round Hill Road, Northampton, Massachusetts 01060

Total Amount: $7,500

Project Director: Solis L. Kates, Ph.D.

Description: A pilot project to determine whether deaf adolescents and adults are distinguished from hearing persons in their ability to interpret multiple meaning words. (See also Grant 14-55004-3.)

Grant No.: RD-2323-S*

Project Title: The Establishment of an Institute for the Study of Deafness and Communicative Disorders

Duration: 1967-1968

Sponsoring Institution: Michael Reese Hospital and Medical Center, 29th and Ellis Avenue, Chicago, Illinois 60616

Total Amount: $9,800

Project Director: Ezra Gordon

Description: A pilot project to determine the most desirable and appropriate architectural and acoustical plan for a multi-disciplinary center to serve the deaf and persons with communicative disorders. (See also Grant 14-55171-5.)

Grant No.: RD-2360-S

Project Title: Teaching of Intonation Patterns to the Deaf Using the Instantaneous Pitch-Period Indicator

Duration: 1967-1969

Sponsoring Institution: Northeastern University, 360 Huntington Avenue, Boston, Massachusetts 02115

Total Amount: $108,944

Project Director: Ladislav Dolansky, Ph.D.

Description: To determine the efficiency of the Instantaneous Pitch-Period Indicator for training the deaf to achieve proper rhythm and intonation patterns of speech. (See also Grant RD-1907.)

Grant No.: RD-2401-S*

Project Title: The Audiologic Application of Tests of Phonemic Differentiation

Duration: 1967-1968

Sponsoring Institution: University of Oklahoma Medical Center, Department of Communication Disorders, 800 N.E. 13th Street, Oklahoma City, Oklahoma 73104

Total Amount $10,592

Project Director: Gerald A. Studebaker, Ph.D.

Description: A pilot project to investigate the possibility of developing a more effective test instrument for evaluating hearing aids through specially structured speech tests with emphasis on phonemic balance.

Grant No.: RD-2407-S*

Project Title: Psychiatric Diagnosis, Therapy, and Research on the Psychotic Deaf

Duration: 1967-1970

Sponsoring Institution: Michael Reese Hospital and Medical Center, 29th and Ellis Avenue, Chicago, Illinois 60616

Total Amount: $341,910

Project Director: McCay Vernon, Ph.D.

Description: To demonstrate the feasibility of providing psychological, psychiatric, and vocational rehabilitation services to the so-called "psychotic deaf."

Grant No.: RD-2408-S*

Project Title: A Pilot Project to Develop Mental Health Services for the Deaf Community in the San Francisco Bay Area

Duration: 1967-1968

Sponsoring Institution: California Department of Mental Hygiene, Langley Porter Neuropsychiatric Institute, 401 Parnassus Avenue, San Francisco, California 94122

Total Amount: $19,999

Project Director: Hilde S. Schlesinger, M.D.

Description: A pilot project to plan the development of a comprehensive community mental health program for the deaf. (See also Grant 14-55270-3.)

Grant No.: RD-2446-S*

Project Title: Program to Improve and Increase Hearing/Speech/Language Services Throughout the United States

Duration: 1967-1968

Sponsoring Institution: National Association of Hearing and Speech Agencies, 919 18th Street, N.W., Washington, D.C. 20006

Total Amount: $47,500

Project Director: Thomas J. Coleman

Description: A pilot project to demonstrate and evaluate methods for improving and increasing community hearing and speech services.

Grant No.: RD-2453-S*

Project Title: The Development of Measures of Vocational Interests and Relevant Aptitudes for the Deaf

Duration: 1967-1970

Sponsoring Institution: Lexington School for the Deaf, 26-26 75th Street, Jackson Heights, New York 11370

Total Amount: $151,354

Project Director: Alan Lerman, Ph.D.

Description: A project to develop a measure of preferential activities for the deaf, a measure of traits, needs, and capacities of the deaf, and the standardization of a prevocational inventory.

Grant No.: RD-2487-S

Project Title: Proceedings of International Conference on Oral Education of the Deaf (2 volumes)

Duration: 1967-1968

Sponsoring Institution: Clarke School for the Deaf, Round Hill Road, Northampton, Massachusetts 01060

Total Amount: $10,000

Project Director: George T. Pratt

Description: To hold an international conference on oral education of the deaf.

Grant No.:
RD-2496-S*

Project Title: The Effect of Transforming High Frequency Energy of Fricatives to Low on the Speech of the Deaf

Duration:
1968-1969

Sponsoring Institution: Clarke School for the Deaf, Round Hill Road, Northampton, Massachusetts 01060

Total Amount:
$10,660

Project Director: Philip A. Bellefleur, Ph.D.

Description: A pilot study to determine the effect of transformed high frequencies of speech upon the speech training of deaf students.

Grant No.:
RD-2499-S*

Project Title: Survey and Recommendations for a System to Deliver Services to Those Vocationally Handicapped by Communication Disorders

Duration:
1968-1969

Sponsoring Institution: Welfare Planning Council, 5300 Santa Monica Boulevard, Los Angeles, California 90029

Total Amount:
$15,000

Project Director: Mrs. Alison K. Mauer

Description: A pilot project to design and test the feasibility of a central coordinating service which will provide community services for persons handicapped vocationally by speech and hearing problems.

Grant No.:
RD-2560-S*

Project Title: Personal and Family Counseling Services for the Adult Deaf

Duration:
1968-1969

Sponsoring Institution: Family Service of Los Angeles, 322 West 21st Street, Los Angeles, California 90007

Total Amount:
$112,120

Project Director: Joseph Kane

Description: To study the effectiveness of personal and family counseling service in facilitating and maintaining the vocational rehabilitation and adjustment of the adult deaf in Los Angeles County.

Grant No.:
RD-2606-S*

Project Title: Assessing the Attitudes of Industry Hiring Personnel Toward Employment of Deaf Applicants

Duration:
1968-1969

Sponsoring Institution: Alexander Graham Bell Association for the Deaf, 1537 35th Street, N.W., Washington, D.C. 20007

Total Amount:
$57,093

Project Director: George W. Fellendorf

Description: A project to develop standardized interview instruments for assessing attitudes of industry hiring personnel toward employment of deaf applicants.

Grant No.: RD-2643-S*

Project Title: International Research Seminar on the Vocational Rehabilitation of Deaf Persons

Duration: 1967-1968

Sponsoring Institution: National Association of the Deaf, 905 Bonifant Street, Silver Spring, Maryland 20910

Total Amount: $75,000

Project Director: Robert G. Sanderson

Description: To conduct an international research seminar on the vocational rehabilitation of deaf persons.

Grant No.: RD-2723-S*

Project Title: Improved Vocational Training Opportunities for Deaf People

Duration: 1968-1969

Sponsoring Institution: University of Pittsburgh, Pittsburgh, Pennsylvania 15213

Total Amount: $45,016

Project Director: William N. Craig, Ph.D.

Description: A pilot project to demonstrate the feasibility of using existing vocational and technical schools and junior colleges customarily serving hearing students to serve graduates of secondary programs for the deaf. (See also Grants 14-55124-2, 14-55196-2, 14-55224-3 and 14-55305-2.)

Grant No.: RD-2746-S*

Project Title: Analysis of Factors that Contribute to Lipreading Ability

Duration: 1968-1969

Sponsoring Institution: University of Cincinnati, Speech and Hearing Laboratory, Cincinnati, Ohio 45221

Total Amount: $15,000

Project Director: Kenneth G. Donnelly, Ph.D.

Description: A pilot project to investigate the factors which contribute to skill and proficiency in lipreading by providing methods for assessing this ability.

Grant No.: RD-2755-S*

Project Title: Planning Phase for the National Census of Deaf Persons

Duration: 1969-1970

Sponsoring Institution: National Association of the Deaf, 905 Bonifant Street, Silver Spring, Maryland 20910

Total Amount: $14,507

Project Director: Jerome D. Schein, Ph.D.

Description: To develop a design for conducting a National Census of the deaf. (See also Grant 14-55107-2.)

Grant No.: RD-2766-S*

Project Title: University Habilitation of Hard of Hearing Adults

Duration: 1969-1970

Sponsoring Institution: Utah State University, University Hill, Logan, Utah 84321

Total Amount: $14,793

Project Director: Frederick S. Berg, Ph.D.

Description: A regional program to explore educational resources at the university level for the habilitation of hard of hearing young adults.

Grant No.: RD-2922-S*

Project Title: Educational and Occupational Status of Young Deaf Adults in Illinois

Duration: 1969-1970

Sponsoring Institution: University of Illinois, Institute for Research on Exceptional Children, 210 Education Building, Urbana, Illinois 61801

Total Amount: $42,885

Project Director: Stephen P. Quigley, Ph.D.

Description: To prepare publications and perform analyses of data on various studies on deafness. (See also Grant RD-1299.)

Grant No.: RD-3067-S*

Project Title: Publication of "Research and Professional Training in Deafness"

Duration: 1969-1970

Sponsoring Institution: Professional Rehabilitation Workers with the Adult Deaf (PRWAD), P.O. Box 125, Knoxville, Tennessee 37901

Total Amount: $11,900

Project Director: Glenn T. Lloyd, Ed.D.

Description: Dissemination of research and training information in the area of deafness through publication of the document entitled "Deafness."

Grant No.: RD-3073-S*

Project Title: Film Supplement to Professional Theatre of the Deaf

Duration: 1969-[illegible]

Sponsoring Institution: Eugene O'Neill Memorial Theatre Foundation, National Theatre of the Deaf, P.O. Box 206, Suite 1012, New York, New York 10023

Total Amount: $22,500

Project Director: David A. Hays

Description: A [illegible] funded by SRS/RD and USOE/BEH to produce a film concerning act[illegible] of the National Theatre of the Deaf in order to reach a broader audience and to doc[illegible]ent work of deaf persons in the theatre arts.

Grant No.: 14-55001-4

Project Title: Professional Theatre of the Deaf

Duration: 1967-1969

Sponsoring Institution: Eugene O'Neill Memorial Theatre Foundation, 699 Madison Avenue, New York, New York 10021

Total Amount: $445,272

Project Director: David A. Hays

Description: A three-year demonstration of a non-oral repertory theater company as a new vocational field for the deaf. (See also Grants RD-868 and RD-2315.)

Grant No.: 14-55004-3

Project Title: Language Development in Deaf Adolescents and Adults

Duration: 1968-1971

Sponsoring Institution: Clarke School for the Deaf, Round Hill Road, Northampton, Massachusetts 01060

Total Amount: $92,083

Project Director: Solis L. Kates, Ph.D.

Description: To determine whether there are significant distinctions in word association and usage between deaf subjects trained by various teaching methods. (See also Grant RD-2308.)

Grant No.: 14-55053-1

Project Title: Essential Aspects of Deafness

Duration: 1970-1974

Sponsoring Institution: Research Foundation for Mental Hygiene, 44 Holland Avenue, Albany, New York 12208

Total Amount: $155,170

Project Director: Kenneth Z. Altshuler, M.D.

Description: To collaborate with the Audiological and Vocational Rehabilitation Center for the Deaf, Belgrade, Yugoslavia, to test whether early total deafness leads to certain personality characteristics regardless of social and cultural influences.

Grant No.: 14-55065-1

Project Title: The Evaluation of Vocational Development of Deaf Young Adults

Duration: 1971-1973

Sponsoring Institution: Lexington School for the Deaf, 26-26 75th Street, Jackson Heights, New York 11370

Total Amount: $109,035

Project Director: Alan Lerman, Ph.D.

Description: To analyze patterns of early work adjustment of previously studied young deaf adults to (1) identify the critical vocational problems facing them, and (2) determine the causes of those problems.

Grant No.: 22-55066-1

Project Title: Rubella Abstracts (1950-1969) – A Retrospective Volume

Duration: 1970-1972

Sponsoring Institution: Excerpta Medica Foundation, 228 Alexander Street, Princeton, New Jersey 08540

Total Amount: $47,630

Project Director: Powrie V. Doctor, Ph.D.

Description: A review of the literature on rubella in the areas of medicine, education, social services, and rehabilitation, to be used as a resource to help those who will be working with the 30,000 to 50,000 deaf victims of the 1964-65 rubella epidemic.

Grant No.: 14-55067-1

Project Title: Explorations in the Psychology of Deafness

Duration: 1970-1975

Sponsoring Institution: New York University, School of Education, Washington Square, New York, New York 10003

Total Amount: $76,448

Project Director: Edna S. Levine, Ph.D.

Description: To develop a program to stimulate, initiate, and carry out explorations and actions for the eventual elimination of problems that continue to obstruct the social and vocational rehabilitation of the deaf.

Grant No.: 14-55076-2

Project Title: Implementation of Council of Organizations Serving the Deaf (COSD)

Duration: 1968-1972

Sponsoring Institution: Council of Organizations Serving the Deaf, 4201 Connecticut Avenue, N.W., Washington, D.C. 20008

Total Amount: $402,179

Project Director: Edward C. Carney

Description: Implementation of "COSD" to bring together organizations of and for the deaf to provide a unified plan of action. (See also Grant RD-2074.)

Special Report: *Accent on Unity: Horizons on Deafness*

Grant No.: 14-55081-1

Project Title: An Annual Directory of Services for the Deaf in the United States

Duration: 1969-1972

Sponsoring Institution: American Annals of the Deaf, Conference of Executives of American Schools for the Deaf, 5034 Wisconsin Avenue, N.W., Washington, D.C. 20016

Total Amount: $162,000

Project Director: Powrie V. Doctor, Ph.D.

Description: Publication and distribution of an annual directory of services for the deaf in the United States. (See also Grants RD-1687 and RD-2050.)

Grant No.: 14-55083-1*

Project Title: Developing Techniques for Utilization of Information on Job Opportunities for the Deaf

Duration: 1970-1971

Sponsoring Institution: Alexander Graham Bell Association for the Deaf, 1537 35th Street, N.W., Washington, D.C. 20007

Total Amount: $85,256

Project Director: George W. Fellendorf

Description: To disseminate information concerning employment opportunities for the deaf and to continue activities for expanding such opportunities in selected work settings.

Grant No.: 14-55084-2

Project Title: Symbolic and Formal Operational Thinking in Deaf Adolescents

Duration: 1969-1972

Sponsoring Institution: Catholic University of America, Department of Psychology, Washington, D.C. 20017

Total Amount: $164,156

Project Director: Hans G. Furth, Ph.D.

Description: To investigate formal operational behavior in deaf people and to relate these findings to Piaget's theory on the development of intelligence.

Grant No.: 14-55089-1

Project Title: Development of Innovative Patterns of Community Service for the Adult Deaf

Duration: 1970-1972

Sponsoring Institution: National Association of Hearing and Speech Agencies, 919 18th Street, N.W., Washington, D.C. 20006

Total Amount: $159,146

Project Director: Thomas J. Coleman

Description: To outline in detail the steps a community must take to develop innovative patterns of service for the deaf adult segment of its socially and culturally disadvantaged population.

Grant No.:
14-P-55103/3-06

Project Title: Registry of Interpreters for the Deaf

Duration:
1967-1973

Sponsoring Institution: National Association of the Deaf, 814 Thayer Avenue, Silver Spring, Maryland 20910

Total Amount:
$149,628

Project Director: Emil S. Ladner

Description: To carry out procedures necessary for successful professionalization of interpreters for the deaf; develop systems of recruitment, training, and evaluation of interpreters through the 46 chapters and other agencies; encourage research for improvement of interpreting services; prepare certification standards; publish a directory of members; develop informational pamphlets; set up chapters in all states and metropolitan areas.

Publications: *Interprenews,* four times a year; *Get to Know the RID;* pamphlets of information for doctors, judges, attorneys, teachers, law enforcement workers religious workers; *When, Where, Why, How,* pamphlet of information on interpreting for deaf consumers.

Grant No.:
14-55107-2

Project Title: National Census of the Deaf

Duration:
1969-1972

Sponsoring Institution: National Association of the Deaf, 2025 Eye Street, Washington, D.C. 20006

Total Amount:
$645,784

Project Director: Jerome D. Schein, Ph.D.

Description: To conduct a national census of the deaf; to obtain accurate estimates of the size of the deaf population of the United States, its geographical distribution, and its demographic and related characteristics. (See also Grant RD-2755.)

Grant No.:
14-55124-2

Project Title: Improved Vocational, Technical, and Academic Opportunities for Deaf People: Research Component

Duration:
1969-1970

Sponsoring Institution: University of Pittsburgh, 4535 Forbes Avenue, Pittsburgh, Pennsylvania 15213

Total Amount:
$100,000

Project Director: William N. Craig, Ph.D.

Description: A project jointly funded by SRS/RD and USOE/BEH to conduct and coordinate research related to a cooperative program using existing vocational and technical schools and community colleges to serve deaf students. (See also Grants RD-2723, 14-55196-2, 14-55224-3 and 14-55305-2.)

Grant No.:
14-55126-1

Project Title: Role of Speech Perception in Diagnosis and Rehabilitation of Auditory Impairment

Duration:
1970-1975

Sponsoring Institution: University of Pittsburgh, School of Medicine, Pittsburgh, Pennsylvania 15213

Total Amount:
$128,017

Project Director: Robert C. Bilger, Ph.D.

Description: To obtain measures of consonantal perception in order to determine (1) relationship to hearing loss or to listener's language background; (2) instrumentally achieved distortions that will allow approximations for normal hearing persons; (3) the relationship between consonantal perception patterns and programs of auditory training.

Grant No.:
14-55171-5

Project Title: Establishment of a Comprehensive Community Operation Attempting to Resolve the Problems of Deafness

Duration:
1968-1971

Sponsoring Institution: Institute for the Study of Exceptional Children and Adults, DePaul University, 25 East Jackson Boulevard, Chicago, Illinois 60604

Total Amount:
$449,325

Project Directors: W. D. Phillips, Ed.D. and William Gellman, Ph.D.

Description: To establish a comprehensive and unified community service program for the deaf utilizing multidisciplinary and multi-agency approaches. (See also Grant RD-2323.)

Grant No.:
14-55196-2

Project Title: Improved Vocational, Technical, and Academic Opportunities for Deaf People: Demonstrations Component

Duration:
1969-1973

Sponsoring Institution: St. Paul Area Technical Vocational Institute, 235 Marshall Avenue, St. Paul, Minnesota 55102

Total Amount:
$450,000

Project Director: Robert R. Lauritsen

Description: A project jointly funded by SRS/RD and USOE/BEH to demonstrate the feasibility of using existing vocational and technical schools and community colleges to serve deaf students. (See also Grants RD-2723, 14-55124-2, 14-55224-3 and 14-55305-2.)

Grant No.: 14-55197-4*

Project Title: A Scale for Testing Speech Discrimination

Duration: 1967-1970

Sponsoring Institution: Wayne State University, Department of Audiology, 261 Mack Boulevard, Detroit, Michigan 48202

Total Amount: $83,868

Project Director: John H. Gaeth, Ph.D.

Description: To develop improved tests of speech discrimination ability for the hard of hearing.

Grant No.: 14-55216-3

Project Title: A Comprehensive Facility Program for Multiply Handicapped Deaf Adults

Duration: 1968-1971

Sponsoring Institution: Hot Springs Rehabilitation Center, Hot Springs, Arkansas 71901

Total Amount: $505,388

Project Director: Donald G. Martin, Ph.D.

Description: To establish a comprehensive vocational rehabilitation facility program for multiply handicapped deaf adults.

Grant No.: 14-55224-3

Project Title: Academic and Vocational Education Program for the Deaf

Duration: 1968-1971

Sponsoring Institution: Delgado College, 615 City Park Avenue, New Orleans, Louisiana 70119

Total Amount: $592,160

Project Director: Douglas O. Wells

Description: To demonstrate the feasibility of using existing vocational and technical schools and junior colleges to serve deaf students. (See also Grants RD-2723, 14-55124-2, 14-55196-2 and 14-55305-2.)

Grant No.: 14-55243-5*

Project Title: A Vocational Rehabilitation Program for the Deaf in a Comprehensive Vocational Facility

Duration: 1966-1970

Sponsoring Institution: Jewish Employment and Vocational Service, 1727 Locust Street, St. Louis, Missouri 63103

Total Amount: $220,663

Project Director: Samuel Bornstein

Description: To demonstrate how the existing resources of a metropolitan vocational training center can be modified to meet the special needs of unemployed deaf adults. (See also Grants RD-1304, RD-1520, RD-1576 and RD-1932.)

Special Report: *Patterns for Effective Rehabilitation of Deaf Adults: An Introductory Guide for Creative Adaptation and Utilization*

Grant No.: 14-55248-1*

Project Title: Vocational Rehabilitation of Indigent Deaf Adults Living Within the Model Cities Project Area

Duration: 1970

Sponsoring Institution: Jewish Employment and Vocational Service, 1727 Locust Street, St. Louis, Missouri 63103

Total Amount: $45,000

Project Director: Sidney N. Hurwitz

Description: To identify persons in Model Cities who are disadvantaged because of functional deafness, and to develop and provide rehabilitation services that will contribute to their self support.

Grant No.: 14-55249-1

Project Title: Case-Finding and the Development of a Model for a Comprehensive Community System of Services for Model Cities Residents with Hearing Disability

Duration: 1970-1973

Sponsoring Institution: Greater Kansas City Hearing Speech Center, Kansas City General Hospital, 24th and Cherry, Kansas City, Missouri 64108

Total Amount: $70,000

Project Director: William N. Marshall, Jr.

Description: To locate individuals with a hearing disability living in a Model Cities area and to develop a model to strengthen the necessary community resources to prevent or reduce their social and economic dependence.

Grant No.: 14-55265-3*

Project Title: Factors of Auditory Perception in Language Learning Problems

Duration: 1968-1970

Sponsoring Institution: University of Southern California, University Park, Los Angeles, California 90007

Total Amount: $157,587

Project Director: Nancy E. Wood, Ph.D.

Description: To develop methods for measuring specific factors in auditory perception and study their relationship in children with language learning problems.

Grant No.: 14-55266-3

Project Title: Measurement of Acoustic Parameters for Speech Compression Transportation

Duration: 1967-1969

Sponsoring Institution: Speech and Hearing Clinic, Pennsylvania State University, University Park, Pennsylvania 16802

Total Amount: $119,801

Project Director: George S. Haspiel, Ph.D.

Description: To determine the specific acoustic parameters to be controlled in speech compression and spectrum shifting for optimum speech discrimination by the hearing-impaired adult.

Special Report: *Instructional Manual for the Experimental Speech Compressor*

Grant No.: 14-55270-3*

Project Title: Mental Health Services for the Deaf: A Program of Research and Services

Duration: 1968-1970

Sponsoring Institution: Langley Porter Neuropsychiatric Institute, California Department of Mental Hygiene, 401 Parnassus Avenue, San Francisco, California 94122

Total Amount: $243,191

Project Director: Hilde S. Schlesinger, M.D.

Description: To investigate the acquisition and usage of standard and nonstandard language systems in a study of communicative skills among preschool deaf children. (See also Grant RD-2408.)

Grant No.: 14-55304-3

Project Title: Northwest Regional Rehabilitation Center for the Deaf

Duration: 1968-1972

Sponsoring Institution: Seattle Hearing and Speech Center, 1620 18th Avenue, Seattle, Washington 98122

Total Amount: $434,566

Project Director: Clyde E. Mott

Description: To establish a comprehensive rehabilitation program for persons with deafness or severe hearing loss.

Grant No.: 14-55305-2

Project Title: Improved Vocational, Technical and Academic Opportunities for Deaf People: Demonstration Component

Duration: 1969-1974

Sponsoring Institution: Seattle Community College, 1718 Broadway, Seattle, Washington 98122

Total Amount: $450,000

Project Director: Herbert W. Barkuloo

Description: A project jointly funded by SRS/RD and USOE/BEH to demonstrate the feasibility of using existing vocational and technical schools and community colleges to serve deaf students. (See also Grants RD-2723, 14-55124-2, 14-55196-2 and 14-55224-3.)

Grant No.: 14-55320-3*

Project Title: Symbolic and Linguistic Processes in the Deaf

Duration: 1967-1970

Sponsoring Institution: Vanderbilt University, Nashville, Tennessee 37203

Total Amount: $171,216

Project Directors: Richard L. Blanton, Ph.D. and Penelope B. Coom

Description: To produce instructional materials on language acquisition for use with the deaf and investigate related problems affecting the deaf in acquiring language.

Grant No.:
14-55328-4*

Project Title: Effective Vocational Guidance of Adult Deaf

Duration:
1966-1969

Sponsoring Institution: Oregon State Board of Control, Salem, Oregon 97310

Total Amount:
$241,823

Project Director: David G. Berger, Ph.D.

Description: To survey "employable" deaf adults and deaf high school students to identify background characteristics and test performances which predict successful vocational adjustment.

Grant No.:
22-55334-1

Project Title: Utilization of International Research Through the World Congress of the World Federation of the Deaf

Duration:
1971-1976

Sponsoring Institution: National Association of the Deaf, 905 Bonifant Street, Silver Spring, Maryland 20910

Total Amount:
$40,624

Project Director: Frederick C. Schreiber

Description: To conduct a demonstration program on dissemination of research information and, through the World Congress, to facilitate the interchange of vocational rehabilitation research among world leaders in service to the deaf.

REHABILITATION SERVICES ADMINISTRATION
Short-Term Training Grants in Rehabilitation of the Deaf

FISCAL YEAR 1968

Institution and Description of Course	State	Grant Number	Total Amount of Grants	Teaching Grants	Traineeship Grants	Number of Traineeships
SHORT-TERM TRAINING – TOTAL			$186,585	$ 67,335	$119,250	784
REGION II						
Pennsylvania Society for Advancement of the Deaf *Manual Communication*	Pa.	C-13	$ 5,500	$ 5,500	—	—
REGION III						
District of Columbia Association of the Deaf *Manual Communication*	D.C.	C-12	5,500	5,000	—	—
Maryland Association of the Deaf *Manual Communication*	Md.	C-21	4,275	4,275	—	—
National Association of Hearing and Speech Agencies *Rehabilitation of Persons with Hearing Loss*	D.C.	410	35,000	—	35,000	350
National Association of the Deaf *Standards for Manual Communicative Skills*	D.C.	698	2,728	—	2,728	11
National Congress of the Jewish Deaf *Orientation to Deafness and Vocational Rehabilitation*	Md.	C-17	4,000	4,000	—	—
Richmond Professional Institute *Orientation Workshop*	Va.	C-1	5,902	1,340	4,562	16
Virginia Association of the Deaf *Manual Communication*	Va.	C-14	3,240	3,240	—	—
Virginia School at Hampton *Manual Communication*	Va.	C-15	3,237	3,237	—	—

REGION IV						
Tennessee, University of *Education Media for the Deaf*	Tenn.	412	9,800	--	9,800	70
REGION V						
DePaul University *Rehabilitation of the Deaf*	Ill.	576	31,823	17,303	14,520	55
Detroit Board of Education *Manual Communication*	Mich.	C-11	9,000	3,600	5,400	40
Indiana School for the Deaf *Manual Communication*	Ind.	C-16	5,500	5,500	--	--
REGION VII						
New Mexico State University *Rehabilitation of the Deaf*	N.Mex.	676	11,283	3,483	7,800	104
REGION IX						
Oregon College of Education *Orientation to Vocational Rehabilitation*	Ore.	408	34,266	3,594	30,672	112
San Fernando Valley State College *Institute for Rehabilitation Counselors Working with the Deaf*	Calif.	336	15,531	6,763	8,768	26

FISCAL YEAR 1969

Institution and Description of Course	State	Grant Number	Total Amount of Grants	Teaching Grants	Traineeship Grants	Number of Traineeships
SHORT-TERM TRAINING – TOTAL			$182,262	$ 53,792	$128,470	954
REGION III						
National Association of Hearing and Speech Agencies *Rehabilitation of Persons with Hearing Loss*	D.C.	410	$ 33,600	—	$ 33,600	235
National Association of the Deaf *Standards for Manual Communicative Skills*	D.C.	698	42,754	$ 17,734	25,020	132
REGION VII						
New Mexico State University *Rehabilitation of the Deaf*	N.Mex.	676	74,407	29,107	45,300	555
REGION VIII						
Denver, University of *Training of Deaf Drivers*	Colo.	682	6,951	6,951	—	—
REGION IX						
Oregon College of Education *Orientation to Vocational Rehabilitation*	Ore.	408	24,550	—	24,550	32

FISCAL YEAR 1970

Institution and Description of Course	State	Grant Number	Total Amount of Grants	Teaching Grants	Traineeship Grants	Number of Traineeships
SHORT-TERM TRAINING – TOTAL			$ 53,217	$ 18,817	$ 34,400	240
REGION III						
National Association of Hearing and Speech Agencies *Improvement of Community Service and Programming for Deaf*	D.C.	410	$ 28,400	—	$ 28,400	200
National Congress of the Jewish Deaf *Orientation of Jewish Religious and Community Leaders to Deafness and Vocational Rehabilitation*	Md.	798	13,150	$ 7,150	6,000	40
REGION IV						
Tennessee, University of *Problems of the Deaf in Professional Meetings*	Tenn.	412	2,500	2,500	—	—
REGION VIII						
Denver, University of *Training of Deaf Drivers*	Colo.	682	6,365	6,365	—	—
REGION IX						
San Fernando Valley State College *Planning Meeting re: Role of Parents of Deaf in the Vocational Rehabilitation Process*	Calif.	336	2,802	2,802	—	—

FISCAL YEAR 1971

Institution	State	Grant Number	Total Amount of Grants	Teaching Grants	Traineeship Grants	Number of Traineeships
SHORT-TERM TRAINING – TOTAL			$ 81,810	$ 16,810	$ 65,000	349
REGION III						
Gallaudet College	D.C.	15165/3-01	$ 11,500	$ 5,550	$ 6,000	20
National Association of Hearing and Speech Agencies	D.C.	15043/3-08	32,000	—	32,000	200
REGION IV						
Tennessee, University of	Tenn.	20111/4-10	14,210	7,010	7,200	30
REGION IX						
San Fernando Valley State College	Calif.	45085/9-10	20,400	4,100	16,300	85
San Fernando Valley State College	Calif.	45160/9-01	3,650	150	3,500	14

REHABILITATION SERVICES ADMINISTRATION
Long-Term Training Grants in Rehabilitation of the Deaf

FISCAL YEAR 1968

Institution	State	Grant Number	Total Amount of Grants	Teaching Grants	Traineeship Grants	Number of Traineeships
TOTAL			$780,725	$360,810	$419,915	
LONG-TERM TRAINING – TOTAL			$594,140	$293,475	$300,665	74
REGION II						
New York University	N.Y.	647	$ 67,448	—	$ 67,448	14
Pittsburgh, University of	Pa.	592	70,882	$ 25,232	45,650	8
REGION III						
National Association of Hearing and Speech Agencies	D.C.	410	41,904	41,904	—	—
National Association of the Deaf	D.C.	698	48,872	48,872	—	—
REGION IV						
Tennessee, University of	Tenn.	412	86,816	34,346	52,470	22
REGION V						
DePaul University	Ill.	576	55,794	23,242	32,552	7
REGION IX						
Arizona, University of	Ariz.	697	40,036	24,721	15,315	4
Oregon College of Education	Ore.	408	24,741	24,741	—	—
San Fernando Valley State College	Calif.	336	142,687	70,417	72,270	15

FISCAL YEAR 1969

Institution	State	Grant Number	Total Amount of Grants	Teaching Grants	Traineeship Grants	Number of Traineeships
TOTAL			$809,129	$375,137	$433,992	
LONG-TERM TRAINING – TOTAL			$626,867	$321,345	$305,522	76
REGION II						
New York University	N.Y.	647	$ 64,742	—	$ 64,742	13
Pittsburgh, University of	Pa.	592	76,114	$ 23,163	52,951	8
REGION III						
National Association of Hearing and Speech Agencies	D.C.	410	42,660	42,660	—	—
National Association of the Deaf	D.C.	698	85,109	85,109	—	—
REGION IV						
Tennessee, University of	Tenn.	412	71,700	29,300	42,400	22
REGION V						
DePaul University	Ill.	576	61,144	24,868	36,276	8
REGION IX						
Arizona, University of	Ariz.	697	44,629	25,609	19,020	6
Oregon College of Education	Ore.	408	23,836	23,836	—	—
San Fernando Valley State College	Calif.	336	141,973	66,800	75,173	15

FISCAL YEAR 1970

Institution	State	Grant Number	Total Amount of Grants	Teaching Grants	Traineeship Grants	Number of Traineeships
TOTAL			$659,599	$331,228	$328,371	
LONG-TERM TRAINING – TOTAL			$606,382	$312,411	$293,971	108
REGION II						
New York University	N.Y.	647	$ 63,960	—	$ 63,960	12
REGION III						
National Association of Hearing and Speech Agencies	D.C.	410	45,301	$ 45,301	—	—
National Association of the Deaf	D.C.	698	93,420	93,420	—	—
Pittsburgh, University of	Pa.	592	74,981	26,531	48,450	7
REGION IV						
Tennessee, University of	Tenn.	412	74,820	31,320	43,500	30
REGION IX						
Arizona, University of	Ariz.	697	54,823	26,473	28,350	8
San Fernando Valley State College	Calif.	336	140,977	65,422	75,555	15
REGION X						
Oregon College of Education	Oreg.	408	42,864	23,944	18,920	32

FISCAL YEAR 1971

Institution	State	Grant Number	Total Amount of Grants	Teaching Grants	Traineeship Grants	Number of Traineeships
TOTAL			$644,176	$310,866	$333,310	
LONG-TERM TRAINING – TOTAL			$562,366	$294,056	$268,310	95
REGION II						
New York University	N.Y.	10078/2-05	$ 61,450	—	$ 61,450	11
REGION III						
National Association of Hearing and Speech Agencies	D.C.	15043/3-08	37,962	$ 37,962	—	—
National Association of the Deaf	D.C.	15045/3-04	88,535	88,535	—	—
Pittsburgh, University of	Pa.	15074/3-06	55,103	24,743	30,360	4
REGION IV						
Tennessee, University of	Tenn.	20111/4-10	74,555	30,305	44,250	30
REGION IX						
Arizona, University of	Ariz.	45048/9-04	45,074	21,999	23,075	7
San Fernando Valley State College	Calif.	45085/9-10	144,511	68,356	76,155	15
REGION X						
Oregon College of Education	Ore.	50015/0-06	39,364	22,156	17,208	24

DETAILS OF LONG-TERM TRAINING GRANTS

Grant No.:
336 (orig.#)
45085/9-10

Project Title: National Leadership Training Program – Area of the Deaf

Duration:
9/1/62-9/1/72

***Sponsoring Institution:** San Fernando Valley State College, Northridge, California 91324

Total Amount:
$1,356,139

Project Director: Ray L. Jones, Ed.D.

Description: This two-semester graduate program is designed to provide special school and public administration training for persons experienced in working with deaf people. A major emphasis is given to programs of administrative internship and experimentation, and to the development of new programs for the deaf. Trainees who meet the college entrance requirements can earn the Master of Arts degree with a specialization in School Administration.

Short-term training programs conducted under the Grant:

1. The Adult Deaf
2. Conference–Interpreters and Instructors of Adult Education for the Deaf
3. Evaluation of the Adult Deaf
4. Leadership Opportunities for the Adult Deaf
5. Conference–Increased Educational Opportunities for the Adult Deaf
6. Conference–Leadership Needs in the Deaf Community
7. Deaf Community Class; Sensitivity Training
8. Manual Communication Class
9. Leadership Conference for Officers of the California Association for the Deaf
10. Sensitivity Training Class
11. Conference for Interpreters
12. Conference of Teachers and Interpreters in Adult Education Classes for the Deaf
13. Training Conference for Region IX Rehabilitation Counselors for the Deaf
14. Interpreters Conference
15. Interpreters Class
16. Training Conference for Region IX Rehabilitation Counselors for the Deaf
17. Interpreting in the Legal Setting
18. Class–Interpreting in the Rehabilitation Setting
19. "Total Immersion"–Introduction to Sign Language
20. Training Conference for Region IX Rehabilitation Counselors for the Deaf
21. Planning Workshop for National Parent Education
22. National Workshop–"Operation TRIPOD"
23. Parents Workshop–Planning Grant

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*Name changed to California State University, Northridge

Grant No.:
408 (orig. #)
50015/0-06

Project Title: Counseling the Deaf

Duration:
3/1/63-3/1/69

Sponsoring Institution: Oregon College of Education, Monmouth, Oregon 97361

Total Amount:
$269,056

Project Director: Betty Phillips Holdt, M.A.

Description: A training program for counselors working with the deaf designed to meet the particular need of vocational counselors and other professional personnel who work with profoundly deaf adults. (non-degree)

Grant No.:
410 (orig. #)
15043/3-08

Project Title: Workshops on Hearing Loss

Duration:
1963-1972

Sponsoring Institution: National Association of Hearing and Speech Agencies, 919 18th Street, N.W., Washington, D.C. 20006

Total Amount:
$720,916

Project Director: Edgar B. Porter

Description: To update knowledge and skills of personnel engaged in community hearing and speech service agencies in the areas of planning, development and administration; to decrease the time lag between the acquisition of new knowledge and techniques in the areas of hearing and speech and their effective application in every day practice; to enable the professional staff of community speech and hearing centers, of other NAHSA member agencies and affiliates and representatives of related community agencies to engage in short-term workshops designed to improve community services and programming.

Grant No.:
412 (orig. #)
20111/4-10

Project Title: Rehabilitation Counselor Training – Three-Month Orientation to Deafness

Duration:
1963-1972

Sponsoring Institution: The University of Tennessee, Knoxville, Tennessee 37916

Total Amount:
$641,887

Project Directors: William E. Woodrick, M.A., Glenn T. Lloyd, Ed.D. (1964-1966), and Norman Tully, M.A. (1963)

Description: To provide orientation to the nature of deafness, its impact on the individual and needs of deaf people. Trainees receive instruction in basic communication skills and counseling techniques for persons working with the deaf and hard of hearing.
Short-term Training Program Conducted Under the Grant: Guidelines for Effective Participation of Deaf Persons in Professional Meetings

Grant No.:
576*

Project Title: Preparing Specialists to Work with the Deaf

Duration:
1965-1969

Sponsoring Institution: DePaul University, Chicago, Illinois 60604

Total Amount:
$214,615

Project Director: William D. Phillips, Ed.D.

Description: To initiate a comprehensive training program directing the service and research skills of specialists in various disciplines to the human problems caused by profound hearing loss.

*Terminated before number was changed.

Grant No.:
592 (orig. #)
15074/3-06

Project Title: Rehabilitation of the Deaf

Duration:
1965-1972

Sponsoring Institution: University of Pittsburgh, Department of Special Education and Rehabilitation, Bellefield Building, 160 N. Craig Street, Pittsburgh, Pennsylvania 15213

Total Amount:
(Not reported)

Project Director: Joseph Newman, Ph.D.

Description: For graduate study intended to provide students who have completed their basic professional preparation an opportunity to develop a major emphasis in the area of the deaf and hard of hearing. The training program, inaugurated in December 1965 through a grant from the Rehabilitation Services Administration, was designed to alleviate the serious shortage of well-qualified professional specialists with the deaf. Individuals who enter the program already possess professional competencies in such fields as rehabilitation counseling, audiology, education, and psychology. Basically the training is to provide such professionals with the necessary knowledge, understanding, and communication skills for meeting the needs of deaf people.

The program offers two tracks of study:

1. Specialist Diploma Program: Graduates of the specialist diploma program are trained for one year in gaining communication skills for working with the deaf and at the same time building an understanding of the problems of deaf people. Generally, students who pursue this diploma are trained rehabilitation counselors, social workers, psychologists and others. After completing their studies and practicum they return to their professions, but to specialize with deaf individuals.
2. Doctoral Program: Students in the doctoral program pursue a more intensive and comprehensive program in special education, research and closely related areas. These students generally have had both study and experience in the education and rehabilitation of the deaf prior to entrance into the program. After graduation they are expected to assume leadership roles, initiate new approaches in education and rehabilitation for the deaf, and promote and stimulate research.

Grant No.:
647 (orig. #)
10078/2-05

Project Title: Traineeships in Deaf Rehabilitation

Duration:
1967-1972

Sponsoring Institution: New York University, New York, New York 10003

Total Amount:
$280,984

Project Director: Jerome D. Schein, Ph.D.

Description: To conduct research and training programs to demonstrate means to assist the deaf individual to realize maximal adaptation to his environment, and to ascertain how delivery of services to deaf clients may be improved.

Grant No.:
697 (orig. #)
45048/9-04

Project Title: Rehabilitation Counseling for the Deaf Training Program

Duration:
1962-1968

Sponsoring Institution: University of Arizona, Tucson, Arizona 85721

Total Amount:
$464,401

Project Director: David Wayne Smith, Ph.D.

Description: A pre-service program in rehabilitation counseling for persons who wish to provide services to deaf people. The program provides a background of several different counseling theories and techniques, and through a practicum provides an opportunity to put at least one of these into practice. The major focus is placed on diagnosis, treatment training, placement and follow-up. Graduates are prepared to function as specialty counselors in a variety of environments.

Grant No.:
698 (orig. #)
15045/3-04

Project Title: NAD Communicative Skills Program

Duration:
1967-1972

Sponsoring Institution: National Association of the Deaf, 814 Thayer Avenue, Silver Spring, Maryland 20910

Total Amount:
$406,891

Project Director: Terrence J. O'Rourke

Description: This long-term teaching program envisages a nationally administered pilot project to develop effective curricula, sound pedagogic guidelines, avenues of recruitment and dissemination of information, and provisions for administrative controls in the direction, development, and evaluation of a high-quality program in teaching manual communication to rehabilitation counselors, and such related personnel as psychologists, social workers, vocational instructors, psychiatrists, and others whose field of endeavor involves contact with deaf people. This would necessarily include audiologists, speech pathologists, speech therapists, teachers, firemen, policemen, hospital employees, employers, co-workers, and family members, friends and relatives of deaf people. Any increase in the type and nature of rehabilitation services available to the deaf client, and effective utilization of existing services, is directly related to the number of trained personnel who are able to use manual communication, either separately, or as an adjunct to speech and speechreading.

Selected Publication: O'Rourke, Terrence J., Ed. *A Basic Course in Manual Communication.* Silver Spring, Maryland: National Association of the Deaf, 1970.

DEAFNESS RESEARCH & TRAINING CENTER

This discussion of activities at the Deafness Research & Training Center is extracted from reports furnished by the Center.

The Deafness Research & Training Center was established in March 1966, by a grant from the Social and Rehabilitation Service to New York University. Within New York University, the Center is placed administratively in the School of Education. Like other special programs of this type, the Center was instituted so that sustained research and training could be conducted in the favorable conditions offered in a university setting.

Of the 19 SRS-sponsored research and training centers, the Deafness Research & Training Center is the only one exclusively concerned with deafness. The original statement of grant award established a very broad purview for the Center, stating that it shall do research and conduct training programs demonstrating "what can be done to allow the deaf individual proper evaluation of his potential ability to attain maximal skill in adapting himself to his environment and its changing characteristics, to find satisfaction in work and leisure activity, and to lead the fullest, most adequate life of which he is capable."

Now in the sixth year the Center has adopted a unified, programmatic approach to research and training. The current activities all focus upon improving the delivery of services to deaf clients. Immediate objectives have been established for each research and training project. For the Region II deaf population, the Center plans to establish programs which will:

— Identify individuals eligible for, but not presently receiving, needed services — especially those who are also members of ethnic minority groups;

— Assist deaf persons in obtaining needed services by providing short-term counseling and referral services and by offering training to deaf community leaders,

— Increase the number of professional and paraprofessional persons able to serve deaf clients, with special emphasis on recruiting and training interpreters for deaf people;

— Enable deaf persons to make better of their vision;

— Enable those who serve deaf persons to arrange the working environment so that deaf persons can function more effectively;

— Provide information and encouragement to agencies which should, but presently do not, meet the needs of deaf clients.

While concentrating its efforts on the region in which it is located, the Center intends to assist deaf persons everywhere. The Center plans to make its innovations — new techniques, training programs, research findings — available to all agencies concerned with deafness rehabilitation. The Center proposes to do this by (a) publishing

reports, (b) conducting short-term training programs to acquaint administrators and practitioners with the problems of deafness, and (c) incorporating these ideas into long-term training programs.

Consistent with its present focus, the Center also accepts the role of consumer advocate – to the extent that advocacy is appropriate and that the Center is capable of providing it.

Summary of Past Research and Training Accomplishments

From 1966 through 1970, the Center undertook a great array of projects. Some were disappointing; studies of deaf persons' speech and speechreading abilities, for example, apparently were fruitless. However, the Center did participate in and develop a number of worthwhile projects in that period.

The National Theatre of the Deaf gained some initial impetus from the Center. The Theatre has been successful in providing new careers for deaf people; e.g., actors, directors, scenic designers, wardrobe mistresses. In addition, it has had an influence on the public's attitudes towards deaf people. How much the changed attitudes have contributed to greater employment opportunities is difficult to assess, but the probability of some positive change is substantial.

The series of studies dealing with comparative tactual sensitivity of hearing and deaf children has attracted much professional attention. Immediate applications have been suggested in work with deaf-blind clients, using the materials developed for both testing and training.

The uncovering of the present inadequacy of continuing education programs for deaf adults has led to an important development. The Workshop on Continuing Education for Deaf Adults and the publication of its deliberations assisted Gallaudet College to obtain a direct Congressional appropriation for a nationwide continuing education effort for deaf adults. Since Gallaudet College will be assuming primary, national concern for this activity, the Center will not pursue it further. The Center's function of being a catalyst in getting other agencies to take over needed services has been fulfilled in this case.

Probably the most significant contributions of the Center have been its efforts to add to the small pool of professional workers with adult clients. It has been instrumental in the preparation of 10 doctorate and 20 master's degree recipients.

The Center has aided persons already in the field to improve their skills in working with deaf clients. The Psychological Association for the Study of the Hearing Impaired (PASHI) has contributed substantially to knowledge about deafness. The Center was a major force in establishing PASHI. This organization has now grown to 68 active members in the New York Metropolitan Area. Its two annual workshops have been consistently well attended.

Training

The Deafness Center administers both long-term (degree-bound) and short-term training programs. The long-term programs aim to develop personnel fully qualified in their helping specialty, and also conversant with, and skillful in treating the problems of deafness. Short-term programs are designed to meet the immediate needs for additional training of personnel in the field and to encourage greater participation in the deaf community by these and other individuals and groups, through either research or service.

Activities in the vocational rehabilitation of deaf people have increased significantly during the past decade. With the growth of these programs has come a critical need for rehabilitation personnel capable of working effectively with deaf clients. In addition to its own efforts, the Center encourages and cooperates with other training programs which are involved in, or contemplating the initiation of, programs to train rehabilitation workers to serve deaf clients.

Many of these projects are listed under research; however, because of the necessity to develop and evaluate their components, their applicability to improved training should be emphasized. Specifically, there is the project to orient rehabilitation counselors who have only occasional contact with deaf clients. The interpreter curriculum fills a void in an aspect of service vital to deaf people. Similarly, proposed projects like the paraprofessional training program aim to provide near-term assistance for rehabilitation agencies.

Long-Term Training

Because of its favorable position within a major university, the Center has encouraged expansion of the degree-oriented training programs incorporating an interest in deafness. An example is the new program to train social workers. There probably are not more than 10 social workers in the United States who have special preparation to work with deaf clients. Yet there is no university that has a curriculum designed to prepare students at the master's level as social workers and as specialists in deafness.

It should be noted that the Deafness Center itself awards no degree. In its long-term training efforts, it:

— identifies disciplines now in need of professionals to work with deaf persons,
— recruits students to enter degree programs in preparation for these professions,
— administers the training grants awarded to these students,
— develops and staffs courses on deafness to supplement the disciplinary studies,
— arranges, and in many cases supervises, the practicums,
— maintains extracurricular opportunities for students in the related degree programs to improve their knowledge of and skills in working with deaf persons.

While students concentrate the majority of their academic hours in preparation for their respective disciplines, they also take courses on deafness, in accordance with their needs. These courses, staffed by Center personnel, make up the Deafness Core Curriculum. Having the persons who teach these courses also be involved in the Center's research programs provides the basis for the close articulation of these two activities. Research findings can be passed on to students almost as rapidly as they are uncovered. Students have an opportunity to conduct their own studies or share in research under the close supervision of a professional investigator.

Short-Term Training

In keeping with the programmatic approach to research adopted by the Deafness Center, the short-term training focuses on improving the delivery of services to deaf persons. Short-term training projects generally fall into one of two categories: Helping deaf people to become better recipients of rehabilitation, and training rehabilitation personnel to better serve deaf clients.

The Center will focus its efforts on programs which will lead directly to the improved delivery of services to deaf persons, by increasing either the sophistication of deaf clients about agencies, or of agency personnel about deafness, or both. Short-term training which does not fit the Center's new programmatic approach will be phased out as rapidly as possible.

Research

The Deafness Center's approach to improving the delivery of services to deaf clients was strongly influenced by the Tarrytown Conference on Current Priorities in the Rehabilitation of Deaf People. Two complementary thrusts emerged from the analysis of that workshop: (a) Deaf people need help to become better consumers of rehabilitation services. (b) The quality and quantity of personnel serving deaf clients must be increased.

Two research projects concern themselves with the deaf consumer. The Visual Communication Laboratory seeks the means for helping deaf people use their eyes more effectively. It seems perverse that every school for deaf students employs audiological or otological personnel, but few have even an opthalmological consultant. Perhaps the first concern of any counselor who has a deaf client should be his eyes. The Laboratory will attract attention to this major untapped research area. Another project also strikes at a neglected area – television for deaf audiences. Both of these projects have the ultimate objective of helping deaf people become better consumers of rehabilitation services through improved communication. Communication will be improved by optimizing the displays from which deaf people must extract information – dynamic visual displays, such as the moving mouth (lipreading) and the moving hands (signing). The same project will develop principles for training deaf viewers how to use their eyes more efficiently. The second project will make the televised communication available by adapting this most powerful medium to deaf viewers.

To increase the number of personnel able to adequately serve deaf clients, the Deafness Center is initiating the training of interpreters, developing instruction for counselors having only occasional contact with deaf clients, and publishing materials to train counselors. The most important project will bring together innovations in casefinding, referral, and short-term counseling. A service model is to be developed, demonstrated and evaluated.

Student Data

The following tables recapitulate student interests, program objectives and degrees awarded.

Students Enrolled in Center-Related Programs, by Discipline and Degree Objectives: 1971-72

	Degree Objective	
	PhD	MA
ALL PROGRAMS	19	18
Rehabilitation Counseling	3	8
Special Education	8	3
Counselor Education	1	4
School Psychology	1	0
Speech Pathology/Audiology	2	0
Educational Theatre	1	0
Communications	1	0
Communication in Education	0	2
Educational Sociology	1	0
Clinical Psychology	1	0
Social Work	0	1

Master's and Doctor's Degrees Earned by Students in Center-Related Programs: 1967-1971

	All		Educ. Psychol.		Guidance		Rehab. Counsel.		Religious Educ.		Educ. Theatre		Counsel. Educ.		Educ. Sociol.	
Year	PhD	MA	PhD	MA	PhD	MA	PhD	MA	PhD	MA	PhD	MA	PhD	MA	PhD	MA
ALL	6	22	3	16	0	1	0	2	2	0	1	0	0	2	0	1
1967	1	2	1	2	0	0	0	0	0	0	0	0	0	0	0	0
1968	1	3	1	2	0	1	0	0	0	0	0	0	0	0	0	0
1969	1	5	1	5	0	0	0	0	0	0	0	0	0	0	0	0
1970	3	6	0	4	0	0	0	2	2	0	1	0	0	0	0	0
1971	0	6	0	3	0	0	0	0	0	0	0	0	0	2	0	1

LIST OF CURRENT PUBLICATIONS*

COUNSELING WITH DEAF PEOPLE. A textbook for counselors who work with deaf clients. Chapters are authored by experts on counseling (C.H. Paterson, J. McGowan, R. Thoresen) paired with experts on deafness (B.R. Williams, L.G. Stewart, A. Sussman, M. Vernon, N. Tully, G. Vescovi).

TARRYTOWN CONFERENCE ON CURRENT PRIORITIES IN THE REHABILITATION OF DEAF PEOPLE. The report of a September, 1971, conference to

determine the most crucial service needs of deaf persons. Seven different areas of need (Administration, Organizations, Manpower, Facilities, Job Development, Communication, Research) are covered.

THE USE OF GROUP TECHNIQUES WITH DEAF PEOPLE. Deaf and hearing participants describe their experiences in a group counseling session led by Ruth Cohn, Director, Workshop Institute for Living-Learning. Mental health practitioners (M. Sternberg, J. Rainer, J. Collins, J. McMahon) discuss the value of group techniques for deaf persons.

SERVICES FOR ELDERLY DEAF PERSONS. The report of a conference held in June, 1971, to prepare a platform of recommended policies and programs on aging and deafness for the 1971 White House Conference on Aging. The platform has been included in the final report of the White House Conference.

SEVERELY HANDICAPPED DEAF ADULTS. Dr. Larry Stewart's article on multiply handicapped deaf persons, reprinted from the *American Annals of the Deaf.* Dr. Stewart discusses the implications of their handicaps for education and rehabilitation.

TELEVISION FOR DEAF AUDIENCES: A SUMMARY OF THE CURRENT STATUS. An overview of current efforts to provide television programming for deaf viewers.

WORKSHOP ON CONTINUING EDUCATION FOR DEAF ADULTS. A review of existing continuing education programs for deaf people with recommendations for their improvement.

SEMINAR ON BEHAVIOR MODIFICATION METHODS FOR PSYCHOLOGISTS WORKING WITH THE DEAF. A collection of papers on the use of behavior modification techniques with deaf persons.

THE COMMUNICATOR. Newsletter describing the work of the Deafness Center. Approximately 3 times per year. Request name be placed on mailing list, if desired. Also, back issues available.

*These publications are free and should be requested from the Deafness Research & Training Center, New York University, 80 Washington Square East, Room 59, New York, New York 10003. Requests will be honored as long as supplies last.

PROJECTS CONDUCTED BY THE DEAFNESS RESEARCH & TRAINING CENTER UNDER GRANT NO. RT-17

RT-17 (66-2).* THE PROCESS OF SPEECH READING IN DEAF ADOLESCENTS. George Guilfoyle.

To account for those factors which make for variance in *speech reading* skills.

RT-17 (66-4).* EFFECT OF SPECIFIC INSTRUCTION IN THE MULTIPLE MEANING OF WORDS ON COMMUNICATION OF THE DEAF. Sister Nora Letorneau.

To evaluate the effect of a *specific educational program* upon *language development* of *deaf* children.

RT-17 (66-3).* THE RELATION OF LEVEL OF VERBAL LANGUAGE ABILITY TO PERSONALITY IN THE ADULT DEAF. Doris Naiman.

To indicate the kinds of psychological functioning that are associated with low *verbal language ability* and not deafness, per se, in the adult.

RT-17 (67-3).* AN INVESTIGATION OF VISUAL ACUITY, VISUAL PERCEPTUAL, AND VISUAL FATIGUE FACTORS AMONG THE DEAF (PHASE: ACUITY). George O. Hellinger.

To discover the extent to which the *vision* of the *deaf* can be used effectively for a variety of communicative purposes.

RT-17 (67-1).* AN INVESTIGATION OF THE EDISON RESPONSIVE ENVIRONMENT PROGRAMMED TEACHING DEVICE TO FACILITATE AND EXPEDITE THE READING ACHIEVEMENT OF THE DEAF. Arthur G. Jillette, Jr.

To determine whether *computer assisted* multistimulus and response mechanistic *teaching* will facilitate the *reading* achievement of the *deaf.*

RT-17 (67-1).* PASTORAL REHABILITATION COUNSELING PROGRAM FOR THE TRAINING OF DENOMINATIONAL WORKERS WITH THE DEAF. Arthur G. Jillette, Jr.

To design a curriculum for training of denominational workers with the *deaf.*

RT-17 (67-1).* DEVELOPMENT OF A GENERIC-SPECIALIST TRAINING PROGRAM FOR REHABILITATION COUNSELORS FOR THE DEAF. Patricia Livingston, Ph.D.

To develop a training program in the areas of *rehabilitation counseling* and work with the *deaf.*

RT-17 (67-2).* THE DEVELOPMENT OF A COUNSELING-LABORATORY IN-SERVICE TRAINING PROGRAM FOR REHABILITATION COUNSELORS. Allen E. Sussman.

To design a "grass roots" inservice training program in collaboration with New York Division of Vocational Rehabilitation for *rehabilitation counselors.*

RT-17 (67-1).* AN INVESTIGATION OF THE RELATIONSHIP BETWEEN THE RELIGIOUS CONCEPTS OF THE DEAF AND METHODS OF COMMUNICATION USED IN RELIGIOUS INSTRUCTION. Charles Ryan.

To determine how formations of *religious concepts* of the deaf relate to reading level and methods of *religious instruction.*

RT-17 (68-1).* A SURVEY OF CURRENT STATUS AND UTILIZATION OF SPEECH ANALYZING AIDS FOR THE DEAF. Arthur G. Jillette, Jr.

To followup on the International Conference of *Speech Analyzing Aids* for the Deaf at Gallaudet College, June 1967.

RT-17 (68-1).* AN INVESTIGATION OF THE RELATIONSHIPS BETWEEN THE OCCUPATIONAL CONCEPTS OF THE DEAF AND THE VOCATIONAL REHABILITATION PROCESS. Allen E. Sussman.

To ascertain concepts of *deaf* clients that govern *vocational choice,* aspiration, and adjustment.

16-56802-1. COMMUNICATION (MANUAL): ATTENTION DEPLOYMENT IN RECEPTION. William Schiff, Ph.D.

To explore changes in *visual attention* deployment as a function of acquiring *communication* skills by the *deaf.*

16-56802-2.* DEAF (ADULT): RELATION OF VERBAL LANGUAGE LEVEL TO PSYCHOLOGICAL DIFFERENTIATION. D. W. Naiman, Ph.D.

To investigate the relationship of *verbal language* limitation to *psychological functioning* in the *adult deaf.*

16-56802-1. DEAF: ANALYSIS OF BEHAVIORAL GOALS. D. W. Naiman, Ph.D.

To describe *behaviors* in *deaf adults* that cause difficulty and analyze the former's *environmental antecedents.*

16-56802-1. DEAF: ATTRIBUTES CONTRIBUTING TO EFFECTIVENESS OF INTERPRETATION. E. S. Levine, Ph.D.

To identify attributes significant to *interpretive skills* for the *deaf.*

16-56802-1. DEAF: COMMUNICATION (INTERPRETED) AND INFORMATION EXCHANGE. E. S. Levine, Ph.D.

To investigate the accuracy with which *verbal messages* of increasing abstractive difficulty can be accurately transposed into *deaf sign language.*

16-56802-1. DEAF: COMPARISON OF SOCIAL PERCEPTIONS WITH THE HEARING. William Schiff, Ph.D.

To provide basic information on the *social percepts* of *deaf adolescents.*

16-56802-2. DEAF: CURRICULUM FOR PREPARING INTERPRETERS IN COLLEGE AND ADULT-EDUCATION SETTINGS. Lottie Riekehof, M.A.

To discover methods of *teaching hearing* persons to be *interpreters* for the *deaf* in *educational* settings.

16-56802-2. DEAF: CURRICULUM FOR PREPARING INTERPRETERS IN LEGAL SETTINGS. Lottie Riekehof, M.A.

To prepare a course outline and list of resources for *teaching hearing* persons to become *interpreters* for the *deaf* in *legal settings.*

16-56802-2. DEAF: CURRICULUM FOR PREPARING INTERPRETERS IN MENTAL-HEALTH SETTINGS Lottie Riekehof, M.A.

To discover methods of *teaching hearing* persons to be *interpreters* for the *deaf* in *mental-health* settings.

16-56802-1. DEAF: CURRICULUM FOR PREPARING INTERPRETERS IN RELIGIOUS SETTINGS. Lottie Riekehof, M.A.

To discover methods of *teaching hearing* persons to be *interpreters* for the *deaf* in *religious* settings.

16-56801-2. DEAF: CURRICULUM FOR PREPARING INTERPRETERS IN SOCIAL-SERVICE SETTINGS. Lottie Riekehof, M.A.

To discover methods of *teaching hearing* persons to be *interpreters* for the *deaf* in *social-service* settings.

15-56802-1. DEAF: CURRICULUM FOR PREPARING INTERPRETERS IN VOCATIONAL REHABILITATION SETTINGS. Lottie Riekehof, M.A.

To discover methods of *teaching hearing* persons to be *interpreters* for the *deaf* in *vocational rehabilitation* settings.

16-56802-2. DEAF: CURRICULUM FOR PREPARATION OF INTERPRETERS. Lottie Riekehof, M.A.

To design a *training curriculum* for preparing *interpreters* for *deaf adults* in a variety of settings.

16-56802-2. DEAF: CURRICULUM FOR TRAINING PSYCHOTHERAPISTS. D. W. Naiman, Ph.D.

To investigate possibilities of establishing programs to train *psychotherapists* for the *deaf.*

16-56801-2. DEAF: IMPROVING EXTRACURRICULAR PROGRAMS IN RESIDENTIAL SCHOOLS. D. W. Naiman, Ph.D.

To promote desirable *school-environment* changes for the *deaf* and relevant in-service *training* for *houseparents.*

16-56802-2. DEAF: IN-SERVICE TRAINING PROGRAM FOR REHABILITATION COUNSELORS. A. E. Sussman, M.A.

To devise a model *counseling laboratory training* curriculum for *rehabilitation* counselors.

16-56802-3. DEAF: ORIENTATION TRAINING BASED ON CLIENT PERCEPTIONS OF REHABILITATION PROCESS. A. E. Sussman, M.A.

To ascertain the *deaf* client's notions about *rehabilitation* and give him greater understanding of the process.

16-56802-2. DEAF: PERSONAL AND COMMUNITY PROBLEMS. A. E. Sussman, M.A.

To study the *deaf community,* define hitherto unidentified *problems,* and seek solutions.

16-56802-2. DEAF POPULATION: COMPREHENSIVE COUNSELING NEEDS. A.E. Sussman, M.A.

To ascertain the *counseling needs* of the *deaf* and the extent and quality of available services.

16-56802-3. DEAF: RELATION BETWEEN EDUCATIONAL CONCEPTS AND ADULT-EDUCATION STATUS. Max Friedman, B.A.

To explore the status of *adult education* for the *deaf* and establish guidelines and recommendations for viable programs.

16-56802-2. DEAF: TACTILE-SENSITIVITY SURVEY. William Schiff, Ph.D.

To develop fundamental understanding of the *tactile* attributes of the *deaf.*

16-56802-2. DEAF: TRAINING AND PROGRAMS FOR HOUSEPARENTS IN RESIDENTIAL SCHOOLS. D. W. Naiman, Ph.D.

To design in-service *training* programs for *houseparents* in residential schools for the *deaf.*

16-56802-2. DEAF CHILDREN: EXTRACURRICULAR ENVIRONMENTS IN RESIDENTIAL SCHOOLS FOR OPTIMAL DEVELOPMENT. D. W. Naiman, Ph.D.

To explore methods of *extracurricular enrichment* in producing more effective *behavior* in the *deaf*.

16-56802-4. DEAF SUBCULTURE: PERCEPTS AND CONCEPTS–COMMUNICATION IN RELIGIOUS INSTRUCTION. Charles Ryan.

To determine how formation of certain *God-concepts* among *deaf adolescents* is related to *reading level* and communication in *religious instruction*.

*Completed projects

THE DEAF-BLIND

SOCIAL & REHABILITATION SERVICE RESEARCH & DEMONSTRATION PROJECTS

Data furnished by Dr. Peter J. Salmon,
Administrative Vice President, The Industrial Home for the Blind

Deaf-blind persons comprise one of the smallest population groups but one that has been greatly neglected over the years. Since 1956 four project grants have been made by the Social and Rehabilitation Service to The Industrial Home for the Blind, 57 Willoughby Street, Brooklyn, New York 11201. The following recapitulation amplifies the report made in the first issue of DEAFNESS (March 1969).

Grant No.:
96*

Project Title: Study and Development of a Manual on Rehabilitation Services for the Deaf-Blind

Duration:
1956-58

Cost:
$60,247

Project Director: Dr. George E. Keane

Description: In order to focus on the problems of deaf-blind persons and to develop factual information, a two-year study was made to review services for deaf-blind persons conducted by The IHB since the formalization of its Department for the Deaf-Blind, which was inaugurated in 1954 by the late Helen Keller. This project resulted in the publication of the following seven volumes:

Rehabilitation of Deaf-Blind Persons:

Vol. I – A Manual for Professional Workers;
Vol. II – Communication – A Key to Services for Deaf-Blind Men and Women;
Vol. III – Report of Medical Studies on Deaf-Blind Persons;
Vol. IV – Report of Psychological Studies with Deaf-Blind Persons;
Vol. V – Studies in the Vocational Adjustment of Deaf-Blind Adults;
Vol. VI – Recreation Services for Deaf-Blind Persons;
Vol. VII – Survey of Selected Characteristics of Deaf-Blind Adults in New York State – Fall 1957.

In addition, an eighth volume, entitled *Report of Committee on Services for the Deaf-Blind to the World Council for the Welfare of the Blind*, was provided in cooperation with the World Council for the Welfare of the Blind, to act as a primer for persons interested, throughout the world, in developing programs for the deaf-blind. Most of these volumes are out of print.

*Project is completed.

Grant No.:
315*

Project Title: Demonstration of a Pilot Program of Speech and Aural Rehabilitation Services for Hard-of-Hearing Blind Persons

Duration:
1958-61

Cost:
$115,974

Project Director: Dr. George E. Keane

Description: This was a pilot program of speech and aural rehabilitation services for hard-of-hearing blind persons. This was a greatly needed project and was the first scientific study of the needs of hard-of-hearing and deaf-blind persons in the United States. The results, published in a monograph of the American Speech and Hearing Association, entitled *Auditory Rehabilitation for Hearing-Impaired Blind Persons*, have been widely disseminated, and The IHB set up and still maintains an active service in this area as part of its rehabilitation program, so that every person who enters the program is given a thorough examination and any needed services in respect to speech and hearing.

Grant No.:
1004*

Project Title: Regional Rehabilitation Services for Deaf-Blind Adults

Duration:
1962-68

Cost:
$396,594

Project Director: Dr. Peter J. Salmon

Description: This project provided services to deaf-blind persons in Regions I, II, and III (HEW) primarily along the Northeast coast of the United States, but was not strictly limited to this area. It demonstrated clearly the need for a national program for deaf-blind persons, which ultimately led to special legislation that created two separate programs – the Centers and Services for Deaf-Blind Children, under the U.S. Office of Education, Bureau of Education for the Handicapped, which provides services through 10 Regional areas of the United States for the training and education of deaf-blind children. Separate legislation was provided for deaf-blind youths and adults, with a national headquarters to be located in Sands Point, L.I., N.Y., operated by The Industrial Home for the Blind.

*Project is completed.

Grant No.:
2576

Project Title: A National Rehabilitation Service for Deaf-Blind Adults

Duration:
1968-72

Cost:
$1,800,000

Project Director: Dr. Peter J. Salmon

Description: This program has a broad scope, with emphasis on research, short and long term training of personnel, and a complete rehabilitation program. Four regional offices were provided for, three of which have already been established. The National Center for Deaf-Blind Youths is housed in temporary headquarters at 105 Fifth Avenue, New Hyde Park, N.Y. 11040. Preliminary plans for the permanent Center have been completed and are currently to be reviewed by the Social and Rehabilitation Service. The permanent Center is expected to be completed within two years. A grant of land consisting of 25 acres at Sands Point, Long Island, has been provided by the Office of Surplus Property Utilization. A capital funds grant of $2.5 million, also, has been provided. More capital funds will be needed to complete the National Center based on the studies and development of plans that have been prepared over the past several years.

INTERNATIONAL PROGRAM OF THE SOCIAL AND REHABILITATION SERVICE

With the establishment in 1967 of the Social and Rehabilitation Service, the international research and demonstration activities of the Vocational Rehabilitation Administration, Children's Bureau, Welfare Administration and Administration on Aging were united under the Division of International Activities. Authorized by the Agricultural Trade Development and Assistance Act of 1954, as amended, the Division of International Activities and its predecessor agencies have administered a cooperative research and demonstration program in developing countries where excess currencies have been available from the sale of U.S. agricultural commodities.

The program seeks to serve dual purposes, in complementing domestic research and attacking significant social, and rehabilitation and geriatric problems in the foreign countries. It is designed to improve international cooperation in research of universal interest and to carry out U.S. foreign policy objectives. Research grants are awarded to qualified governmental and private non-profit institutions that submit sound research proposals which, in addition to satisfying the above criteria, have received official sanction by the respective governments.

Since the start of the program seven years ago, over three hundred projects have been supported in the following countries: Brazil, Burma, Ceylon, India, Israel, Morocco, Pakistan, Poland, Syria, Tunisia, U.A.R. and Yugoslavia.

Many of these projects have developed or hold promise of developing new methods and techniques for use in improving rehabilitation services to the deaf. A grant, awarded by the Vocational Rehabilitation Administration in 1963, enabled Dr. Petar Guberina of Yugoslavia to devise the Verbo-Tonal Method for auditory rehabilitation of profoundly deaf individuals. Other institutions in India, Israel, Pakistan, U.A.R., and Yugoslavia have sought to expand employment opportunities for the deaf and to enhance their chances for vocational success through improved training and personal adjustment services. A total of 13 projects in the field of speech and hearing have been implemented since the beginning of the program.

SOCIAL AND REHABILITATION SERVICE
INTERNATIONAL RESEARCH ON DEAFNESS

Grant Number Title Dates of Operation Total Amount	Sponsoring Institution and Project Director	Description of Research	Final Report
19-58015 (UAR-8-67)* Rehabilitation Center for the Deaf Sept. 1, 1966-Oct. 31, 1970 66,000 Egyptian Pounds $118,880 (equivalent)	Egyptian Association for the Welfare and Rehabilitation of the Deaf, Cairo, Egypt Mr. Ali Abdel-Ghaffar	To establish a comprehensive rehabilitation center for vocational guidance, personal adjustment, prevocational and selective placement of the deaf.	–
IND-14-65* Investigation of Techniques for Rehabilitating Deaf Persons Mar. 1, 1965-Nov. 2, 1968 187,099 Indian Rupees $24,618 (equivalent)	U.P. Deaf and Dumb Institute, Allahabad, U.P., India Dr. S. D. Nusia	To develop techniques to rehabilitate deaf persons by vocational guidance, training in indigenous crafts and other trades, and selective placement.	–
19-58117 (IND-13-64)* Establishment of a Pilot Rehabilitation Unit in Audiology and Speech Pathology Aug. 1, 1964-Mar. 31, 1971 688,719 Indian Rupees $90,621 (equivalent)	All-India Institute of Medical Sciences, New Delhi, India Dr. A. Sinha	To establish a pilot rehabilitation unit in audiology and speech pathology to experiment with methods of providing multi-lingual speech therapy and other audiological services in India.	*Establishment of a Pilot Rehabilitation Unit in Audiology and Speech Pathology in India*

19-58122 (IND-26-66)* An Investigation of the Audiological and Rehabilitation Needs of Persons with Speech and Hearing Disorders Dec. 1, 1965-Dec. 31, 1970 519,653 Indian Rupees $68,375 (equivalent)	Christian Medical College and Hospital, Vellore, India Y. P. Kapur, M.D.	To develop and apply hearing and speech services suited to Indian conditions; to explore possibilities for the manufacture of hearing aids, using indigenous materials; to develop rehabilitation and employment services for the speech and hearing handicapped.	*Needs of the Speech and Hearing Handicapped in India*
19-58134 (IND-38-68)* Development of Rehabilitation Services for Patients with Speech and Hearing Disorders Aug. 1, 1967-July 31, 1972 536,276 Indian Rupees $70, 563 (equivalent)	All-India Institute of Speech and Hearing Disorders, Mysore, South India N. Rathna, Ph.D.	To develop a pattern of rehabilitation services for effective management of patients with hearing and speech disorders.	
ISR-24-65* Research and Demonstration Pilot Project on Rehabilitation of Deaf Persons in Israel Sept. 1, 1964-Aug. 31, 1968 303,300 Israeli Pounds $72,214 (equivalent)	The Association of the Deaf and Mute in Israel and the Helen Keller House, Tel-Aviv, Israel N. Sade-Sadovsky, M.D.	To assess the training potentialities of 14 to 18 year old deaf persons in diamond cutting and polishing and in carpentry and to demonstrate that deaf people are a source of reliable manpower for the continuously expanding industries.	*Research and Demonstration Pilot Project on Rehabilitation of Deaf Persons in Israel*

Grant Number Title Dates of Operation Total Amount	Sponsoring Institution and Project Director	Description of Research	Final Report
19-58047 (ISR-32-67)* Visual Communication Systems for the Rehabilitation of the Deaf Apr. 1, 1967-Sept. 30, 1970 230,029 Israeli Pounds $54,769 (equivalent)	The Hebrew University, Jerusalem, Israel I. M. Schlesinger, Ph.D.	To investigate the potentialities of visual communication systems for rehabilitation of the deaf.	–
19-58243 (PAK-11-67)* Establishment of a Pilot Rehabilitation Research and Training Program for the Deaf May 1, 1968-Feb. 9, 1972 217,100 Pakistani Rupees $19,736 (equivalent)	The Association for the Welfare of the Adult Deaf and Dumb, Karachi, Pakistan Mr. M. Y. Butt	To study and develop techniques for rehabilitating deaf persons by vocational guidance, personal adjustment services and training in indigenous crafts and other recommended trades, and to demonstrate that deaf persons are a source of manpower for the continuously expanding industries in Pakistan.	–
19-58327 (POL-19-70)* Rehabilitation Studies of Breathing, Voice, and Speech after Total or Subtotal Laryngectomy June 1, 1970-Dec. 31, 1973 1,785,750 Polish Zlotys $80,876 (equivalent)	The Otolaryngological Clinic of the Medical Academy, Crakow, Poland Jan Sekula, M.D.	To carry out long-term research on the progress of rehabilitation in different social groups of patients after various types of larynx cancer operations; to develop most efficacious rehabilitation methods for post-operative patients.	–

YUGO-2-63* Studies and Investigation of Speech in Relation to the Rehabilitation of the Deaf Working with Restricted Bands of Frequencies Dec. 20, 1962-Dec. 19, 1967 1,744,092 Yugo Dinars $104,358 (equivalent)	University of Zagreb, Institute of Phonetics, Zagreb, Yugoslavia Petar Guberina, Ph.D.	To conduct case studies in the use of restricted bands of frequencies in auditory training of the deaf and hard of hearing.	*Case Studies in the Use of Restricted Bands of Frequencies in Auditory Rehabilitation of the Deaf*
YUGO-7-66* Establishment of an Experimental Vocational Guidance and Personal Adjustment Center for the Deaf Mar. 1, 1966-Feb. 28, 1970 2,435,000 Yugo New Dinars $143,235 (equivalent)	Federation of the Deaf of Yugoslavia, Belgrade, Yugoslavia Mr. Dragoljub Vukotic	To set up a comprehensive program for the assessment of physical, psychological, social and vocational capacities for deaf people and establish an experimental vocational guidance and personal adjustment center for the deaf.	–
19-58404* Essential Aspects of Deafness Mar. 1, 1970-Feb. 28, 1974 1,509,672 Yugo New Dinars $88,804 (equivalent)	Center for the Rehabilitation of the Deaf, Belgrade, Yugoslavia Ljubomir Savic, Ph.D.	To conduct a cross-cultural study of the relationship between early total deafness and personality development and to develop a prototype of a complex research and complete rehabilitation program for the deaf that can serve as a model for other countries.	–
19-58408 (YUGO-41-70)* Rehabilitation of Persons with Functional Speech Defects Nov. 1, 1970-Oct. 31, 1973 1,875,000 Yugo New Dinars $110,294 (equivalent)	Institute for Schooling and Rehabilitation of Persons with Hearing and Speech Defects, Kotor, Yugoslavia Cvetko Brajovic, M.D.	To evaluate methods of rehabilitating persons with functional speech defects (stutterers).	–

SOCIAL AND REHABILITATION SERVICE
INTERNATIONAL RESEARCH PROJECTS IN THE AREA OF DEAFNESS
GRANT FUNDS BY FISCAL YEAR

Grant Number	1963	1964	1965	1966	1967
19-58015 (UAR-8-67)					66,050 Egyptian Pounds $118,880 (equivalent)
IND-14-65		688,719 Indian Rupees	187,099 Indian Rupees $24,618 (equivalent)		
19-58117 (IND-13-64)		688,719 Indian Rupees $90,621 (equivalent)			
19-58122 (IND-26-66)				519,653 Indian Rupees $68,375 (equivalent)	
19-58134 (IND-38-68)					
ISR-24-65			303,300 Israeli Pounds $72,214 (equivalent)		
19-58047 (ISR-32-67)					230,029 Israeli Pounds $54,769 (equivalent)
19-58243 (PAK-11-67)					217,100 Pakistani Rupees $19,736 (equivalent)
19-58327 (POL-19-70)					
YUGO-2-63	1,774,092 Yugo New Dinars $104,358 (equivalent)				
YUGO-7-66				2,435,000 Yugo New Dinars $143,235 (equivalent)	
19-58404					
19-58408					
TOTALS:	$104,358	$90,621	$96,832	$211,610	$193,385

(1969--NO NEW PROJECTS)

Grant Number	1968	1970	1971	
19-58015 (UAR-8-67)				
IND-14-65				
19-58117 (IND-13-64)				
19-58122 (IND-26-66)				
19-58134 (IND-38-68)	536,276 Indian Rupees $70,563 (equivalent)			
ISR-24-65				
19-58047 (ISR-32-67)				
19-58243 (PAK-11-67)				
19-58327 (POL-19-70)		1,785,750 Polish Zlotys $80,876 (equivalent)		
YUGO-2-63				
YUGO-7-66				
19-58404		1,509,672 Yugo New Dinars $88,804 (equivalent)		
19-58408			1,875,000 Yugo New Dinars $110,294 (equivalent)	
TOTALS:	$70,563	$169,680	$110,294	GRAND TOTAL: $1,047,343

BUREAU OF EDUCATION FOR THE HANDICAPPED
U.S. OFFICE OF EDUCATION

RESEARCH AND DEMONSTRATION PROJECTS IN DEAFNESS

DIVISION OF RESEARCH

The Division of Research is responsible for stimulating the improvement of educational programs for handicapped children, including the deaf.

LEGISLATIVE AUTHORITY

The passage of P.L. 88-164, late in 1963, will be marked in history as the birthdate of research for handicapped children in the U.S. Office of Education. This law authorized $2 million for both research and demonstration projects related to the education of handicapped children. Section 302 of P.L. 88-164 has been amended twice since its enactment. Along with increases in funds came increases in flexibility of programs. P.L. 89-105 permitted construction of a comprehensive research and demonstration center; P.L. 90-247 permitted the support of research training and operation of an intramural research program. This program is presently authorized under P.L. 91-230, Part E, Research in Education of the Handicapped. The original Research and Demonstration Branch of the Division of Handicapped Children and Youth became the Handicapped Children and Youth Branch of a Division of the Bureau of Research in July of 1965. In January of 1967, it became the Division of Research in the Bureau of Education for the Handicapped.

ACTIVITIES

The Division of Research is responsible for stimulating the improvement of educational programs for handicapped children, including the deaf. There are no restrictions placed on the type of projects which can be supported, provided they fit within the broad definition of research or related activities, defined by law to include research, demonstration, surveys, and research training. During the period 1964-1970, 58 projects concerned specifically with the Hearing Impaired have been approved, representing $4,501,810 out of a total obligation for all types of handicap of $56,518,015. Proposals approved were submitted by institutions of higher education, public and private schools, State education agencies, research organizations, and other groups such as hospitals, clinics, residential institutions, professional organizations, foundations, etc.

Grant No.: OEG-5-10-006

Project Title: An English Curriculum for the Deaf Students at the Secondary Level

Duration: 8/1/64-10/15/69

Sponsoring Institution: Gallaudet College, Washington, D.C. 20002

Total Amount: $132,630

Project Directors: Dr. Harry Bornstein and Dr. William Stokoe

Description: The preparation of an analytic curriculum in English for deaf students at the secondary level in the development of instructional tools for improving English proficiency.

Final Report: *An English Curriculum for the Deaf Students at the Secondary Level*

Grant No.: OEG-7-53-6210-296

Project Title: The Testing and Modification of Overhead Projection Transparencies for Special Use with Classes for the Deaf

Duration: 6/1/65-10/6/68

Sponsoring Institution: Texas Education Agency, Austin, Tex. 78710

Total Amount: $75,473

Project Director: W.T. Kinniell

Description: To identify the types ot changes which are necessary to convert regular visual materials into specialized materials for instruction of deaf students and to develop and make available modified visuals for duplication by interested institutions.

Final Report: *The Testing and Modification of Overhead Projection Transparencies for Special Use with Classes for the Deaf*

Grant No.: OEG-1-7-008771-0480

Project Title: A Comparative Study of the Most Creative and Least Creative Students in Grades 4 to 6

Duration: 11/1/66-6/10/69

Sponsoring Institution: Boston School for the Deaf, Randolph, Mass. 02368

Total Amount: $9,220

Project Director: Marie S. Gallagher

Description: A test of a number of hypotheses concerning high and low creative deaf students using an abbreviated form of the "Minnesota Tests of Creative Thinking."

Final Report: *A Comparative Study of the Most Creative and Least Creative Students in Grades 4 to 6*

Grant No.: OEG-1-7-00838-0504

Project Title: A Picture-Identification Test for Hearing-Impaired Children

Duration: 11/1/66-1/17/69

Sponsoring Institution: University of Connecticut, Storrs, Conn. 06268

Total Amount: $5,417

Project Director: Dr. Mark R. Ross

Description: To revise and enlarge a picture identification speech discrimination test useful for collecting data which can be used to assist hearing-impaired children make maximum use of their residual hearing.

Final Report: *A Picture-Identification Test for Hearing-Impaired Children*

Grant No.: OEG-32-14-0000-1014

Project Title: Home Teaching for Parents of Young Deaf Children

Duration: 6/1/64-4/23-69

Sponsoring Institution: John Tracy Clinic, Los Angeles, Calif. 90007

Total Amount: $95,831

Project Director: Dr. Edgar L. Lowell

Description: A demonstration to establish and explore the value of a new instructional program for preschool deaf children and their parents, using training techniques applicable in a normal routine at home as contrasted to customary training activities for children with hearing impairments in a school or clinical environment.

Final Report: *Home Teaching for Parents of Young Deaf Children*

Grant No.: OEG-32-15-0180-1019

Project Title: A Project to Develop and Evaluate the Effectiveness of Instructional Materials for the Deaf Designed to Emphasize the Syntactical Meaning of Words

Duration: 6/1/64-11/16/71

Sponsoring Institution: University of Colorado, Speech and Hearing Clinic, Boulder, Colo. 80302

Total Amount: $54,262

Project Director: Dr. Richard F. Krug

Description: The development of instructional materials for the very young deaf child to emphasize the order of words in using such materials in the expectation for (1) techniques to teach the preschool deaf child word order, (2) teach him to read, and (3) provide a method for him to express himself even before he learns to speak or write.

Final Report: *A Project to Develop and Evaluate the Effectiveness of Instructional Materials for the Deaf Designed to Emphasize the Syntactical Meaning of Words*

Grant No.:
OEG-0-71-1434 (603)

Project Title: Summer Institute in Science

Duration:
6/71-8/71

Sponsoring Institution: Gallaudet College, Washington, D.C. 20002

Total Amount:
Not reported

Project Director: Edward E. Beasley, Ph.D.

Description:

1. To provide a much needed special facility for science teachers of the deaf at Gallaudet College,
2. To augment the meager training of this group, and
3. To contribute toward improving the quality of science education available for the deaf community.

There were 17 participants in this course.

Grant No.:
OEG-0-71-1434

Project Title: Summer Mathematics Institute for Teachers of the Deaf

Duration:
1971-1972

Sponsoring Institution: Gallaudet College, Washington, D.C. 20002

Total Amount:
$33,577

Project Director: Leon Auerbach

Description: This was a six weeks' course in Foundations of Mathematics for Teachers of the Deaf at the elementary and secondary levels. The objective was to have teachers of every level from kindergarten through twelfth grade fully trained in modern mathematics. There were 32 participants in this course.

Grant No.:
OEG-2-7-070070-1522

Project Title: Research on Frequency Transposition for Hearing Aids

Duration:
11/15/66-12/31/72

Sponsoring Institution: Gallaudet College, Washington, D.C. 20002

Total Amount:
$236,684

Project Director: Dr. James H. Pickett

Description: The development and testing of methods for altering speech signals better to compensate for serious hearing losses of sensorineural origin with attention focused on those cases where speech reception cannot be sufficiently aided by conventional amplification, because of very poor auditory discrimination in the important speech frequency regions.

Grant No.: OEG-1-6-062069-1591

Project Title: A Parent-Centered Program for Preschool Deaf Children

Duration: 6/1/66-5/31/69

Sponsoring Institution: Emerson Coll., Boston, Mass. 02116

Total Amount: $48,282

Project Director: Dr. David Luterman

Description: Preschool instruction of the congenitally deaf child to demonstrate the value of early parental training in the education of the child, and the effect of parental attitudes.

Final Report: *A Parent-Centered Program for Preschool Deaf Children*

Grant No.: OEG-2-6-061924-1890

Project Title: Enlarging the Sign Language for Instructional Purposes

Duration: 6/27/66-7/8/71

Sponsoring Institution: Gallaudet College, Washington, D.C. 20002

Total Amount: $59,418

Project Director: Dr. Harry Bornstein

Description: A proposal to (1) create between 500 and 1,000 new signs for English terms for which no signs presently exist, (2) determine how well these are recognized, acquired, and retained, and (3) develop improved methods of teaching them. English terms for which no signs presently exist will be nominated and grouped into clusters applicable to professional divisions of the college. These signs will be taught to upperclass students who will be tested. At completion of the project new signs will be taught routinely on campus.

Final Report: *Enlarging the Sign Language for Instructional Purposes*

Grant No.: OEG-1-7-002540-2006

Project Title: Proposal for a National Research Conference on Day Programs for Hearing-Impaired Children

Duration: 11/1/66-3/7/68

Sponsoring Institution: Columbia University, Teachers College, New York, N.Y. 10025

Total Amount: $33,750

Project Director: Ann M. Mulholland

Description: A research conference to examine the policies and practices of programs for aurally handicapped children in the total school and to develop guidelines for program organization and administration and research.

Final Report: *Proposal for a National Research Conference on Day Programs for Hearing-Impaired Children*

Grant No.:
OEG-4-7-002353-2051

Project Title: Relationship between Audiologic Status, Linguistic Skills, Visual-Motor Perception and Academic Achievement of Deaf Children

Duration:
11/7/66-10/27/69

Sponsoring Institution: Univ. of Texas, Austin, Tex. 78712

Total Amount:
$34,991

Project Director: Grace H. Hanson

Description: The basic objective of this study is to determine whether significant interrelationships exist between audiologic status, linguistic skills, visual-motor perception, and academic achievement among selected groups of deaf children in a residential school.

Final Report: *Relationship between Audiologic Status, Linguistic Skills, Visual-Motor Perception and Academic Achievement of Deaf Children*

Grant No.:
OEG-2-7-070630-3024

Project Title: Conference on Speech-Analyzing Communication Aids for the Deaf

Duration:
4/15/67-6/25/69

Sponsoring Institution: Gallaudet College, Washington, D.C. 20002

Total Amount:
$19,831

Project Director: Dr. James M. Pickett

Description: A technical conference for acoustic scientists on the topic of special speech analyzers that are under experimental development and testing as new electronic aids for the deaf and the severely hard-of-hearing.

Final Report: *Conference on Speech-Analyzing Communication Aids for the Deaf*

Grant No.:
OEG-2-7-070394-3025

Project Title: Materials for the Education of Handicapped Children

Duration:
4/6/67-4/5/68

Sponsoring Institution: George Washington University, Washington, D.C. 20006

Total Amount:
$212,658

Project Director: Murdock Head, M.D.

Description: A program to improve the dissemination of information about innovations in deaf education with an ultimate goal to establish centers in various countries for the collection and transmission of information and materials relevant to the education of the deaf.

Grant No.:
OEG-0-9-522113-3339

Project Title: The Effectiveness of Low-Frequency Amplification and Filtered Speech Testing for Pre-School Deaf Children

Duration:
6/1/69-5/31/72

Sponsoring Institution: University of Tennessee, Knoxville, Tenn. 37916

Total Amount:
$390,348

Project Director: Carl W. Asp

Description: Twenty-four pre-school deaf children with similar hearing losses will be divided into four equal subgroups. Within each subgroup, three children will receive auditory stimulation via an extended low-frequency unit, and three children will simultaneously receive auditory stimulation via an auditory training unit that has a "conventional" frequency response. Criterion measures of the rate of vocalization and the quality of vocalization will be obtained at four-month intervals. The latter measure will be observed under a variety of conditions; e.g., amplification, no amplification, visual clues, auditory clues, and familiar and unfamiliar test words. Sonographic analysis will be completed on pairs of speech samples to determine possible relationships between "perceptual changes" and acoustic differences on pairs of sonograms. The amplifying systems will be evaluated with respect to frequency response, harmonic distortion, and intermodulation distortion. Audiometric procedures will include: (A) air- and bone-conduction thresholds, and (B) detection thresholds for filtered-speech stimuli and "conventional" speech stimuli. All children will wear identical hearing aids. An analysis of variance will be utilized to analyze the annual results. Information will be disseminated through annual reports and a workshop will be planned for the third year.

Grant No.:
OEG-0-71-4142 (603)

Project Title: Training Program for School Counselors of the Deaf

Duration:
6/15/71-3/15/72

Sponsoring Institution: Counseling and Placement Center, Gallaudet College, Washington, D.C. 20002

Total Amount:
$44,305

Project Director: Richard K. Johnson, Ed.D.

Description: This project was for the planning of a comprehensive model training program designed to prepare professional level pupil support personnel to work with hearing impaired children and their parents in an educational setting. Such a program is based on established principles of counseling, as well as on the special knowledge presently available relating to the problems of the hearing impaired. In addition, this program investigates and incorporates those skills which may be deemed necessary to cope with the unique needs of the hearing impaired child as he passes through the various developmental stages of his growth as an individual.

Immediate and long-range objectives of the program include:

1. Help meet the need for pupil support personnel in schools and programs for the hearing impaired throughout the nation.

2. Preparing qualified hearing and hearing impaired persons as pupil support specialists for both day and residential school programs to help parents of young hearing impaired children adjust to the problems which such a child may bring into the family unit and specialists who will be knowledgeable in matters pertaining to future careers, to the hearing impaired in the world of work, and in providing prevocational counseling.

3. Utilizing existing techniques of counseling and modifying these techniques to meet the special needs of the hearing impaired student.

4. Developing new methods of providing more adequate support services to the hearing impaired student.

5. Developing a curriculum and accompanying methodology guideline which can be used elsewhere to promote similar training programs.

Grant No.: OEG-0-9-232175-4370

Project Title: The Development and Description of Syntactic Structure in Language of Deaf Children

Duration: 6/1/69-5/31/72

Sponsoring Institution: Univ. of Illinois, Urbana, Ill. 61801

Total Amount: $344,414

Project Director: Dr. Stephen Quigley

Description: The program of research will use transformational-generative grammar as a model for studying the comprehension and production of syntactic structures by deaf children. The program will use three methods for studying syntactic structure: (1) linguistic analysis of written language samples, (2) use of non-verbal and verbal materials for eliciting and manipulating specific syntactic structures, and (3) use of unstructured and structured "cloze" procedures. By using these methods in a series of studies generated within a framework of transformational-generative grammar it is anticipated that the following objectives will be realized: (1) determination of the syntactic patterns in the language comprehension and production of deaf children and youth, (2) description of rules by which the syntactic patterns are generated, (3) construction of a grammar which will describe the phrase-structure and transformational rules available to deaf children and youth at various age levels and how these rules differ from the phrase-structure and transformational rules of English, (4) the development of materials for the assessment and teaching of certain syntactic structures. The first three items listed are the major objectives of the proposal. Their attainment should provide a body of knowledge concerning the present development of syntactic structures in the language of deaf children which could serve as input to centers concerned with the production of media and materials for the instruction of deaf children and youth.

Grant No.: OEG-0-71-4668

Project Title: Stability of Children's Hearing Aids in an Acoustic Preschool

Duration: 6/1/71-7/31/72

Sponsoring Institution: Vanderbilt University, Nashville, Tenn. 37203

Total Amount: $9,360

Project Director: Dr. Robert Coleman

Description: In an aurally handicapped school age population, hearing aids may be regarded as the prime delivery system of an elaborate and expensive educational process. Recent research designed to monitor hearing aid performance, however, has indicated that hearing aids in a child's environment vary drastically in their performance, in comparison to the assumed stability which is taken for granted in most programs. Without adequate amplification, the child is deprived of one of the major avenues of education, i.e., his hearing, and thus the educational process is

hampered in a significant way. This study proposes first, to obtain an estimate of the amount of acoustic variability in a sample of aids drawn from a population of acoustic preschool children. Following an initial period of evaluation of variation, a testing and monitoring program will be initiated with the parents of the children, concerning the need for constant attention to the acoustic performance of the aids. It is anticipated that the results of the study will, first, allow a reasonable estimate of acoustic variability in an actual user's environment, and second, provide a basis for eliminating or reducing variability in children's hearing aids.

Grant No.:
OEG-0-70-4797

Project Title: Computer Assisted Instruction in Mathematics and Language Arts for the Deaf

Duration:
6/1/70-6/30/72

Sponsoring Institution: Stanford University, Stanford, Calif. 94305

Total Amount:
$1,362,990

Project Director: Patrick Suppes

Description: It is proposed that a research and curriculum development project in language arts and mathematics be established for deaf and handicapped children using the medium of computer-assisted instruction. Programs in elementary-school mathematics developed and used in the Stanford CAI project over the past several years will be used initially and will be evaluated for their appropriateness for the group being considered and revised or rewritten as necessary. Specific hypotheses concerning the relative difficulty of concepts in the program and the achievement of deaf and handicapped children compared with students in regular schools will be tested. Developmental work on a computer-assisted instructional program of language arts will be undertaken as part of the program. Extensive testing and evaluation, both formative and classic, will be carried out at each stage of development. Teams of teachers from participating schools will assist Stanford curriculum specialists and psychologists in the preparation as well as in the evaluation of curriculum materials to be used in the program. Instruction will be administered by Stanford's CAI network which has been in operation since 1963. Data collection and analysis will be performed using the Stanford computer. Daily lessons will be taken by students using teletype terminals connected by telephone line to the computer at Stanford where each student response is handled individually. The project will focus on basic research on the learning difficulties of deaf and handicapped children in the areas of mathematics and language arts and the preparation and evaluation of appropriate curriculum materials. A program in research training will be coordinated as part of the project and will employ graduate students in the educational research program as staff members on the evaluation team. The categories covered in this project are: (A) programmatic development; (B) educational media; (C) curriculum development and evaluation; and (D) research training.

Grant No.: OEG-32-20-7170-5006

Project Title: Development and Evaluation of Programmed Instruction in the Teaching of Verbs to Deaf Children in the Primary Grades

Duration: 1/1/65-6/30/68

Sponsoring Institution: Atlanta Speech School, Inc., Atlanta, Ga. 30327

Total Amount: $203,944

Project Directors: Dr. Robert L. McCroskey and Dorthea Grigonis

Description: A procedure for increasing the efficiency of teaching verbs to deaf children through programmed instruction and the development of a standardized achievement test for verbs which can be used in schools for the deaf.

Grant No.: OEG-32-52-0450-6007

Project Title: A Home Teaching Program for Parents of Very Young Deaf Children

Duration: 2/1/66-1/31/69

Sponsoring Institution: Vanderbilt University, Nashville, Tenn. 37203

Total Amount: $103,591

Project Director: Dr. Freeman McConnell

Description: The goal is to detect auditory deficits in children under 3 years of age and to aid in developing the remaining capacities for learning in the home environment, speech, speech-reading, and auditory skills, using parents as active training partners. Also, the development of a home teaching manual.

Final Report: *A Home Teaching Program for Parents of Very Young Deaf Children*

Grant No.: 32-18-0070-6009 (607)

Project Title: The Annual Survey of Hearing Impaired Children and Youth

Duration: 1968-1972

Sponsoring Institution: Office of Demographic Studies, Gallaudet College, Washington, D.C. 20002

Total Amount: $933,408

Project Director: Augustine Gentile

Description: The program is established as a permanent research organization to collect, process and disseminate data on hearing impaired individuals through college age in the United States. The need for such information on this universe has been of prime concern to educators, audiologists, legislators, psychologists and others.

The policies and direction of the Annual Survey are determined by a committee representing all areas of services to hearing impaired individuals. The committee is formally called the National Advisory Committee to the Annual Survey of Hearing Impaired Children and Youth. All data collected are held in strictest confidence.

The program is accumulating a large volume of statistical data. Over 550 reporting sources with about 41,000 students enrolled in their programs cooperated with the Annual Survey for the 1970-71 school year. An Achievement Testing Program was conducted by the Annual Survey. Approximately 19,000 students representing 290 programs participated in this program. The processing and dissemination of these data hold wide implications and potential benefits for educational, audiological, medical, psychological, legislative and other services to the hearing

impaired. Towards the goal of fully utilizing the data, the program will, within limits of confidentiality, make data available to independent investigators for research purposes. Masters' theses, doctoral dissertations, institutional level research programs, private studies, etc., are solicited.

Publications: Series D Number 1 – *Academic Achievement Test Performance of Hearing Impaired Students, United States: Spring 1969*

Series D Number 2 – *Item Analysis of Academic Achievement Tests of Hearing Impaired Students, United States: Spring 1969*

Series D Number 3 – *Additional Handicapping Conditions, Age at Onset of Hearing Loss, and Other Characteristics of Hearing Impaired Students, United States: 1968-69*

Series D Number 4 – *Type and Size of Educational Programs Attended by Hearing Impaired Students, United States: 1968-69*

Series D Number 5 – *Summary of Selected Characteristics of Hearing Impaired Students, United States: 1969-70*

Series D Number 6 – *Audiological Examinations of Hearing Impaired Students, United States: 1969-70*

Series D Number 7 – *Characteristics of Hearing Impaired Students Under Six Years of Age, United States: 1969-70*

Grant No.:
OEG-32-42-0000-6032

Project Title: Identification Assessment and Prediction of Reading Competency in Deaf Children

Duration:
3/1/66-6/30/68

Sponsoring Institution: Lexington School for the Deaf, New York, N.Y. 10021

Total Amount:
$96,302

Project Director: Dr. Joseph Rosenstein

Description: An analysis of the reading competency of deaf children in the dichotomy of poor and competent readers based upon scores of three indices of reading ability.

Grant No.:
RD 2723-68-S

Project Title: Improved Vocational Training Opportunities for the Deaf Research Component (co-sponsored BEH, SRS)

Duration:
12/1/67-5/31/72

Sponsoring Institution University of Pittsburgh, Pittsburgh, Pa. 15213

Total Amount:
$105,016

Project Director: Dr. Joseph Newman

Description: This project is designed to demonstrate the feasibility of using existing vocational and technical schools and junior colleges, customarily serving hearing students, to serve graduates of secondary programs for the deaf. The demonstration and research project has two distinct components: (1) to develop a set of comprehensive guidelines for establishing and conducting an effective program for deaf students within existing educational institutions with a minimum of disruption to the existing instructional programs; (2) to develop a systematic program of research to evaluate the effectiveness and increase the efficiency of the selected schools and junior colleges participating in this project.

Grant No.:
RD 2871-S1

Project Title: Academic and Vocational Education Program for the Deaf (co-sponsored BEH, SRS)

Duration:
5/1/68-5/31/72

Sponsoring Institution: Delgado College, New Orleans, La. 70119

Total Amount:
$300,000

Project Director: Douglas O. Wells

Description: The project to improve vocational training opportunities for deaf people will be organized on a regional basis. It will be one of several locations serving as complementary activities under the direction of the project at the University of Pittsburgh. Emphasis will be placed on the following special services for deaf persons enrolled in the college program

1. comprehensive guidance services
2. transitional adjustment program
3. develop better understanding by deaf persons of the world of work
4. provide laboratory services to strengthen subject matter required by deaf students and
5. enhance social adjustment of deaf students.

The following major areas will be covered in addition to the technical and vocational training: (1) detailed occupational information; (2) survey of vocational interests; (3) personal management; (4) preparatory and remedial English and math; and (5) improvement of communication skills.

Grant No.:
RD 3009-S

Project Title: Improved Vocational and Academic Training Opportunities for Deaf People (co-sponsored BEH, SRS)

Duration:
2/1/69-5/31/72

Sponsoring Institution: Seattle Community College, Seattle, Wash. 98122

Total Amount:
$237,500

Project Director: Ed. K. Erickson

Description: To demonstrate the feasibility of using existing vocational-technical schools and community colleges customarily serving hearing students, to serve graduates of secondary programs for the deaf and those deaf students who have for some reason terminated their education prior to the successful completion of a secondary program, and to evaluate this demonstration as it progresses, in such a way that the results of this evaluation can be used to maximize its impact—both as a training plan for the deaf and as a demonstration for the establishment of similar programs elsewhere. This proposed research and demonstration project has four distinct aims: (1) to develop a set of comprehensive guidelines for establishing and conducting an effective program for deaf students within Seattle Community College which can be adopted by similar schools elsewhere; (2) to establish a regional program for the deaf which will provide academic and vocational education, guidance and counseling, exploratory instruction, personal and social adjustment for those deaf students who are training at the college; (3) to develop a systematic program of research to evaluate the effectiveness and increase the efficiency of the college in providing adult high school and post-secondary programs for the deaf and profoundly hard-of-hearing; (4) to develop special visual instructional materials and a research program which will evaluate the effectiveness of these materials.

Grant No.:
RD 3269-S

Project Title: Improving Vocational and Academic Training Opportunities for Deaf People (co-sponsored BEH, SRS)

Duration:
2/1/69-5/31/72

Sponsoring Institution: St. Paul Tech. Vocational Institute, St. Paul, Minn. 55102

Total Amount:
$237,500

Project Director: H. M. Ostrem

Description: The project will provide technical and vocational education and counseling for post-secondary deaf youth residing in the sixth United States Civil Service Region and surrounding areas when appropriate. The St. Paul Technical Vocational Institute will be a special facility which will train deaf students in a minimum of thirty-four technical and vocational programs.

The hypothesis which this institution proposes to explore in depth is that the deaf person can more easily reach his optimum potential if given adequate technical or vocational training in specialized areas using multivariate media in an existing facility and as a result be employed at a level commensurate with his ability.

INSTRUCTIONAL MATERIALS CENTERS

Region Served

OEG-32-14-1490-1033
Charles A. Watts, Project Director
Special Education Instructional Materials Center
University of Southern California
1031 South Broadway
Los Angeles, California 90015
Phone: 213 747-9308

Arizona, California, Nevada

OEG-32-59-0500-1002
Leroy Aserlind, Project Director
A Special Education Instructional Materials Center
University of Wisconsin
415 West Gilman Street
Madison, Wisconsin 53706
Phone: 608 262-5745

Minnesota, Wisconsin

OEG-4-6062267-1551
Albert W. Fell, Project Director
Special Education Instructional Materials Center
University of Texas at Austin
2613 Wichita Street
Austin, Texas 78712
Phone: 512 471-3145 Extension 30

Arkansas, Oklahoma, Texas

OEG-7-070680-3103
Raymond Sheary Cottrell, Jr., Project Director
Mid-Atlantic Region Special Education Instructional Materials Center
George Washington University
2201 G Street, N.W.
Washington, D.C. 20006
Phone: 202 676-7200

Delaware, District of Columbia, Maryland, New Jersey, Pennsylvania, Virginia

OEG-4-6-062310-1563
Wayne D. Lance, Project Director
A Special Education Instructional Materials Center
University of Oregon
Department of Special Education
1612 Columbia Street
Eugene, Oregon 97403
Phone: 503 686-3585

Alaska, Hawaii, Idaho, Oregon, Washington

OEG-2-6-062473-1717
Donald Erickson, Project Director
CEC/ERIC and SEIMC/RMC Network Office
1499 Jefferson Davis Highway, Suite 900
Arlington, Virginia 22202
Phone: 703 920-7770

National

OEG-2-6-062266-1554 (607)
A. Edward Blackhurst, Project Director
Regional Special Education Instructional Materials Center
University of Kentucky
Special Education Department
720 South Limestone
Lexington, Kentucky 40506
Phone: 606 258-4921

Kentucky, North Carolina, Tennessee, West Virginia

OEG-3-6-062679-1564 (607)
Gloria F. Calovini, Project Director
Education Materials Center for Handicapped Children
Office of Superintendent of Public Instruction
1020 South Spring Street
Springfield, Illinois 62706
Phone: 217 525-2263

Illinois

OEG-2-6-062289-1582
Carl W. Lappin, Project Director
An Instructional Materials Reference Center for Visually Handicapped Children
American Printing House for the Blind
1839 Frankfort Avenue
Louisville, Kentucky 40206
Phone: 502 895-2405

National

OEG-4-6-062239-1562
Willard G. Jones, Project Director
Rocky Mountain Special Education Instructional Materials Center
University of Northern Colorado
Greeley, Colorado 80631
Phone: 303 351-2681

Colorado, Montana, New Mexico, Utah, Wyoming

OEG-1-7-070729-3104 (607)
Raphael F. Simches, Project Director
New York Special Education Instructional Materials Center Network
New York State Education Department
55 Elk Street
Albany, New York 12224
Phone: 518 474-6939

New York

OEG-7-070677-3108 (032)
John Lee Tringo, Project Director
New England Special Education Instructional Materials Center
Boston University
704 Commonwealth Avenue
Boston, Massachusetts 02215
Phone: 617 353-3266

Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont

OEG-3-6-062377-1557 (607)
Lou Alonso, Project Director
United States Office of Education - Michigan State University Regional Instructional Materials Center for Handicapped Children and Youth
Michigan State University
213 Erickson Street
East Lansing, Michigan 48823
Phone: 517 353-7810

Indiana, Michigan, Ohio

OEG-7-070690-3100
Robert W. Ridgway, Project [illegible]r
Special Education Instructi[illegible]rials Center
University of Kansas SEIMC
213 Bailey Street
Lawrence, Kansas 66044
Phone: 913 864-3464

Iowa, Kansas, Missouri, Nebraska, North Dakota, South Dakota

REGIONAL MATERIALS CENTERS

	Region Served
OEC-1-7-000211-0211 (615) Dr. Raymond Wyman, Project Director Northeast Regional Media Center for the Deaf University of Massachusetts Amherst, Massachusetts 01003 Phone: 413 545-2455	Connecticut, Delaware, District of Columbia, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont
OEC-2-7-00235 (615) Dr. William D. Jackson, Project Director Southern Regional Media Center for the Deaf College of Education The University of Tennessee Knoxville, Tennessee 39716 Phone: 615 974-3308	Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, Ohio, Puerto Rico, South Carolina, Tennessee, Virginia, Virgin Islands, West Virginia
OEC-3-7-000199-0199 (615) Dr. Robert E. Stepp, Project Director Midwest Regional Media Center for the Deaf University of Nebraska Lincoln, Nebraska 68508 Phone: 402 472-2141	Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, South Dakota, Wisconsin
OEC-4-7-00183 (614) Dr. Hubert Summers, Project Director Southwest Regional Media Center for the Deaf New Mexico State University P.O. Box 3AW Las Cruces, New Mexico 88001 Phone: 505 646-1017	Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oklahoma, Oregon, Texas, Utah, Washington, Wyoming

PROFESSIONAL TRAINING PROGRAMS IN THE AREA OF DEAFNESS BUREAU OF EDUCATION FOR THE HANDICAPPED U.S. OFFICE OF EDUCATION

(Data furnished by Karen Greenwood and Sandy Hazen, Staff Assistants, Division of Training Programs)

LEGISLATIVE AUTHORITY: On November 3, 1966, President Johnson signed into law the Elementary and Secondary Amendments of 1966 which created a new Title VI, Education of Handicapped Children, in the Elementary and Secondary Act of 1965. As an outgrowth of the new Title VI, the Commissioner of Education announced, on January 12, 1967, the establishment of a Bureau of Education for the Handicapped. This Bureau is the principal agency in the Office of Education for administering and carrying out programs and projects for the training of teachers of the handicapped and research in such education and training. Included in the Bureau's three divisions is the Division of Training Programs, which contains the activities that involve Federal assistance to colleges and universities and State education agencies to provide training in order to increase the Nation's manpower in the education of the handicapped. This aid is authorized by Public Law 91-230, Title VI, Part D, signed into law in April 1970.

PURPOSE: Grants are awarded to institutions of higher education and to State education agencies to assist in the preparation of persons employed or about to be employed as teachers of handicapped children, supervisors of teachers, speech pathologists and audiologists, and other specialists. Colleges and universities may also receive grants for training programs for those who are to be involved in the preparation of teachers and for those engaged in or preparing to engage in relevant research.

Institutions of higher education and State education agencies may submit applications for grants in any or all areas of the handicapped included under Public Law 91-230; i.e., mentally retarded, deaf, speech and hearing impaired, visually handicapped, seriously emotionally disturbed, crippled, or other health impaired, learning disabilities, multi-handicapped, interrelated, special education administration, and physical education and recreation for the handicapped.

There are five basic types of grants: undergraduate traineeships, graduate fellowships, summer session traineeships, special study institutes, and program development grants. An institution of higher education may submit applications for different types of grants in one or more areas of personnel preparation. With the exception of program development grants, State education agencies also may apply for different types of grants in one or more areas of personnel preparation.

ACTIVITIES: For the academic year 1971-72, the following are the types of grants available:

Undergraduate Traineeships

Junior year trainees receive a stipend of $300 to assist them in their junior academic year of full-time undergraduate study. It is expected that institutions which have been awarded junior year traineeships will utilize them for purposes of recruiting outstanding students into the field of education of the handicapped.

Senior Year Traineeships

Senior year trainees receive a stipend of $800 for the senior academic year of full-time undergraduate study.

Graduate Fellowships

The purpose of grants for graduate study is to assist colleges and universities in the preparation of professional personnel at the master's and post-master's levels. Fellowships are awarded for full-time study for one academic year *as defined by the institution.*

Master's Level Fellowships: Fellows enrolled for full-time graduate study at the post-master's level will receive a stipend of $2,200, and an allowance of $600 for each dependent.

Post-Master's Level Fellowships: Fellows enrolled for full-time graduate study at the post-master's level will receive a stipend of $2,200 and an allowance of $600 for each dependent.

Summer Session Traineeships

Assistance may be provided for training programs for summer study, as defined by the institution.

A summer session trainee pays no tuition or fees and receives a stipend of up to $75 per week. Generally, summer session traineeships are for purposes of in-service education and the major utilization of these traineeship grants should be through State education agencies.

Special Study Institutes

The institute is a multi-purpose training vehicle, in that it may be held for various types of personnel, at various levels of preparation, and for varying periods of time.

An institute affords the opportunity to provide a period of intensive study and experiences for a specific group of participants. Institutes may be developed by State education agencies or institutions of higher education; however, it is assumed that the primary responsibility for the development of institutes rests with State education agencies. Institutes may be held for:

1. Personnel already trained in one or more areas of the education of the handicapped.

2. Personnel who work with the handicapped, although it may not be their full-time responsibility. This could include elementary supervisors, general school administrators, school psychologists, school social workers, counselors, house parents, recreation and physical education workers, and professional aides.

3. Experienced elementary and secondary teachers who are planning to enter the field of teaching the handicapped.

An institute participant pays no tuition or fees and receives a stipend of up to $75 per week.

Program Development Grants

Program development grants are for the purpose of assisting colleges and universities in the development or expansion of a program for the preparation of professional personnel in the education of the handicapped. These grants are intended to support new professional positions, secretarial and consultant services, travel for staff and consultants, teaching supplies and materials, books, and communications costs for items such as telephones, stamps, and brochures.

The grants are for the period from June 1, 1971, through August 31, 1972, and seldom exceed $20,000. An institution may apply once for the renewal of a program development grant in an area in which a previous award was made. Program development funds may not be used for building construction or to purchase equipment. Indirect costs are not allowed.

The staff member identified as the program development coordinator should be free from full-time teaching and other academic duties in order to devote sufficient time and effort to the development of the new or expanding program.

SPECIAL PROJECTS PROGRAM

The purpose of special project grants is to plan for, experiment with, and evaluate the effectiveness and efficiency of new models in preparing personnel to educate handicapped children. These grants are expected to result in programs which can better meet manpower needs in the education of handicapped children. Institutions of higher education and State educational agencies may apply under this program. Other non-profit public and private agencies are eligible for participation under this program on a discretionary basis as determined by the Division of Training Programs. Several special projects in the area of deaf education were funded for the 1971-72 academic year. They are as follows:

Institution	Title of Project	Project Director	Funds Granted
U. of Massachusetts	Preparation of Media Specialists in Education of the Deaf	R. Wyman	$ 68,451
Syracuse University	Training Potential Leaders in Education of the Deaf to Become Competent Educational Technologists	D. Ely	$103,858
U. of Massachusetts	A Prototype Adjunct Teacher Preparation Program for the Utilization of Behavioral Technology in Deaf Education	T. Eachus	$ 15,376

Gallaudet College	School Counselors for the Deaf	R. Johnson	$ 44,305
New York University	A Regional Training Program for Professional Afterschool Staff in Residential Schools for Deaf Children	D. Naiman	$ 22,707
Trinity University	A Planning Meeting for a National Conference on Habilitation of Zero to Three Year Old Hearing Impaired Children	J. Grant	$ 4,887

NEW DIRECTIONS–DIVISION OF TRAINING PROGRAMS–1972

Programs of manpower preparation must produce more personnel with known, specific competencies and must contribute to differentiated systems of instruction in order to provide for those handicapped children not now receiving adequate instruction and to progress toward quality education for all handicapped. Thus, the emphasis in manpower programs should be on competency domains and instructional goals, not upon child labels. Consistent with those beliefs, the Division of Training Programs will again this year concentrate its resources on teacher education in institutions of higher education and State educational agencies, but with a heightened, explicit concern for planning, output, and evaluation.

Applications from institutions of higher education are to come from departments, not categories of handicap, and are to be projected over a three-year span, offering approved programs the opportunity for planful development of objectives, long-term strategies of improvement and evaluation of output. Approximately one-third of all programs will receive three-year approval initially, one-third the next year, and the remainder in two years.

A concern for output means increased attention to an institution's products and a somewhat diminished interest in program inputs. The number of graduates, their specific competencies, the number of handicapped children they instruct over how many years and with what effect, are all extremely important. The really critical concern in any preparation program is the performance of its graduates. Such information as the number of credits of coursework required or the number of faculty in the program, though important, are considered to be input data and probably not the best criteria for judging program effectiveness.

One concrete expression of this concern by the Division is to encourage program assistance grants in support of departmental programs as an alternative to fellowhsip funding by categories. Program assistance grants will allow departments to allocate grant monies in ways which will produce the most effective and efficient outcomes. Levels of individual student support may vary widely under this system, depending upon local need. The fundamental intent of program support through the bloc grant concept is production of higher quality manpower to serve a larger number of handicapped children than was previously accomplished by the program.

PROGRAM ASSISTANCE GRANTS

It is anticipated that program assistance grants will contribute to increased manpower production with lower costs per unit of output, improved manpower planning, greater experimentation and improved quality in personnel preparation programs. Three major aspects of the program assistance grant are line item budgets, multi-year approval, and evaluation.

Line Item Budgets

Each institution or agency will apply for the various types of grants administered by the Division of Training Programs using the appropriate application form. Institutions of higher education, State educational agencies and special project applicants will utilize a line item budget format. The line item budget pages are included in the appropriate sections.

Multi-Year Approved Programs

Multi-year approved programs refer to a commitment by the Division of Training Programs to provide a base level of financial support to an institution or agency over a specific period of time, up to three years. The extent of the commitment is, by necessity, subject to the availability of monetary resources to the Division of Training Programs and will vary with the complexity and quality of programs conducted by the grantee.

In moving from a single to a multi-year orientation and focus, institutions and agencies will project their goals and activities over a three-year period. Multi-year approval further offers programs a reasonable degree of stability over time. This in turn will facilitate additional long-range planning.

As the multi-year approved program is initiated, approximately one-third of all institutional programs will receive three-year approval, one-third the next year, and the remaining one-third institutional programs in two years. Thus, at the end of three years, all of the institutions participating in our regular award program will be on a three-year approval. State educational agency programs will be given one-year approval.

EVALUATION

An application submitted for approval must be based on stated objectives which are amenable to measurement. An important component of the evaluation process will be the data relating to manpower production (both quality and quantity) although program and curriculum improvements and similar matters related to an institution's objectives need to also be measured. The evaluation design should reflect input variables such as staffing patterns and staff qualifications, student quality, curriculum improvements, and program facilities; process variables including course and field placement experiences; and output variables including the graduates' knowledge and attitudes about the handicapped, specific skills and competencies in educational diagnosis, treatment, and management of behavior, the number and types of handicapped children receiving services from those graduates and the quality of service rendered. Procedures for the routine collection of information which will aid in making decisions for program improvement should also be incorporated into the evaluation design.

OFFICE OF EDUCATION PROGRAM FOR THE PREPARATION OF PROFESSIONAL PERSONNEL IN THE EDUCATION OF DEAF CHILDREN, BUREAU OF EDUCATION FOR THE HANDICAPPED

University and Year Program Was Established	Program Director	1971-72 Traineeship Awards	Amount of Total Grant Awarded
University of Alabama 1962	Ronald Evelsizer, Ed.D.	7 MA 20 SSI	53,875
University of Arizona 1957	George Leshin, Ph.D.	6 senior 8 MA	59,200
University of Arkansas 1952	Gary D. Blake, Ed.D.	5 senior	14,000
California State College at Los Angeles 1951	Jean U. Lehman, Ph.D.	12 MA	63,600
Fresno State College 1969	Karen M. Jensen, M.Ed.	3 MA	15,900
San Diego State College 1965	Harriet G. Kopp, Ph.D.	2 senior 6 MA	37,400
San Fernando Valley State College 1969	Henry Klopping, Ed.D.	10 MA 12 SST	63,800
San Francisco State College 1948	Priscilla Muir, Ed.D.	6 MA 10 SST	40,800
University of Southern California 1951	Edgar D. Lowell, Ph.D.	8 MA 18 SST	58,600
University of Northern Colorado 1959	F. W. Adams, M.Ed.	4 senior 2 MA	21,800
Eugene O'Neill Memorial Theatre for the Deaf	David Hays, MFA	20 SSI	12,757
Southern Connecticut State College 1971	Virginia M. Branson, Ph.D.	PDG	19,000
Gallaudet College 1891	Philip J. Schmitt, Ph.D.	20 MA 60 SSI	173,577
Florida State University 1967	Gladys Crawford, M.S.	4 senior 7 MA	48,300
University of Miami 1966	Marya Mavilya, Ph.D.	3 MA	15,900
Emory University 1938	James T. Graham, Ph.D.	3 MA	15,900
Georgia State University 1968	Joseph E. Hartung, Ph.D.	5 senior	14,000
Illinois State University 1950	Alfred D. Larson, Ed.D.	7 senior	19,600
Northwestern University 1950	Patricia A. Scherer, Ph.D.	5 senior 6 MA 4 PMA	73,400

University of Illinois 1948	Stephen P. Quigley, Ph.D.	6 MA 5 PMA	66,300
Ball State University 1953	J. Dean Twining, MA	9 senior 2 MA	35,800
University of Kansas Medical Center 1951	June Miller, Ed.D.	12 MA 3 PMA 9 SST	95,100
Louisiana State University and A & M College 1971	Gail Pflaster, Ph.D.	PDG	26,800
Southeastern Louisiana University	John E. Robinson, Ph.D.	12 SST	16,200
National Association of the Deaf	Terrence J. O'Rourke	37 SSI	31,47[illegible]
Western Maryland College 1968	Britt M. Hargraves, M.S.	6 senior 4 MA 18 SST	6[illegible]300
Boston University 1961	Wilbert Pronovost, Ph.D.	12 MA 1 PMA	70,500
Smith College 1967	Alan Marvelli, M.Ed.	10 MA 40 SST	89,000
Eastern Michigan University 1925	Sophia L. French, M.A.	5 MA 10 senior	54,500
Wayne State University 1936	Lucille M. Pressnell, Ph.D.	6 senior	16,800
University of Minnesota 1962	W. Desmond Phillips, Ph.D.	3 MA 2 PMA	29,700
Fontbonne College 1846	Sister James Lorene Hogan, Ed.S.	8 senior	22,400
Washington University 1914	S. Richard Silverman, Ph.D.	4 senior 24 MA 1 PMA 35 SSI	173,920
University of Nebraska at Omaha 1951	Kathleen McKinney, MA	4 MA	21,200
Trenton State College 1883	Pauline M. Jenson, Ph.D.	4 MA	21,200
Canisius College 1914	Sister Mary Delaney, Ed.D.	12 MA	63,600
Hunter College 1961	Dorothy Hammitt, M.S.	5 MA	25,600
New York University 1908	Laura Nadoolman, MA	10 MA	53,000
SUNY-Geneseo 1967	Sidney Wolff, M.S.	5 MA 25 SSI	41,313
Teachers College, Columbia University 1935	Ann Mulholland, Ph.D.	14 MA 2 PMA	88,000

University and Year Program Was Established	Program Director	1971-72 Traineeship Awards	Amount of Total Grant Awarded
Lenior Rhyne College 1894	Jane C. Williams, M.Ed.	8 senior 25 SST	59,900
Minot State College 1962	Florence Lake, MS	4 senior 1 MA	16,500
Kent State University 1949	Katherine Miner, MA	7 senior	19,600
University of Cincinnati 1962	Roberta Truax, M.Ed.	10 senior 2 PMA	41,800
University of Oklahoma-Medical Center 1947	Eugene O. Mencke, Ph.D.	10 MA	53,000
University of Tulsa 1970	Jack Foreman, M.A.	2 senior	5,600
Lewis and Clark College 1950	H. William Brelje, Ed.D.	4 senior 6 MA	43,000
Oregon College of Education 1960	Josephine Carr, M.A.	16 MA	84,800
Pennsylvania State University 1963	Marian A. Quick, M.A.	4 senior 4 MA	32,400
University of Pittsburgh 1926	Freida K. Hammermeister, Ph.D.	11 MA 2 PMA	72,100
University of Puerto Rico 1971	Lydia Cano, M.A.	PDG	38,389
Memphis State University 1971		20 SSI	21,106
University of Tennessee 1930	Glenn T. Lloyd, Ed.D.	5 senior 5 MA 11 SST	57,000
Southern Methodist University 1968	Barbara Beggs, Pd.D.	2 senior 2 MA	16,200
Trinity University 1954	June Grant, M.Ed.	9 senior	25,200
University of Texas 1949	Lennart L. Kopra, Ph.D.	8 senior 5 MA 14 SST	61,500
University of Utah 1963	Grant B. Bitter, Ed.D.	10 MA	53,000
University of Virginia 1966	Jean C. Ervin, Ph.D.	4 MA	21,200
University of Washington 1968	Sheila Lowenbraun, Ph.D.	7 MA	37,100
University of Wisconsin-Milwaukee 1913	Leo Dicker, Ed.D.	6 senior 4 MA	38,000

Wisconsin State University-Stevens Point 1969	Gary W. Nix, Ph.D.	6 senior	16,800

61 Universities	163 senior 314 MA 22 PMA 169 SST 217 SSI	

Fellowships:
MA – MA, MS, MED, etc.
PMA – Post-Masters

PDG – Program Development Grant

Traineeships: $2,738,714
senior – senior year traineeships
SSI – Special Study Institutes
SST – Summer Session Traineeships

MEDIA SERVICES AND CAPTIONED FILMS BRANCH BUREAU OF EDUCATION FOR THE HANDICAPPED UNITED STATES OFFICE OF EDUCATION

Data furnished by Ernest E. Hairston, Education Specialist

PURPOSE AND BACKGROUND

The Media Services and Captioned Films Branch (MSCF) of the Division of Educational Services, Bureau of Education for the Handicapped, U.S. Office of Education, was established to alleviate the ever-widening educational, cultural and social gap between deaf persons and persons with normal hearing.

The growth of the Media Services and Captioned Films program has been phenomenal over the past twelve years. Beginning with enactment of Public Law 85-905, which authorized the establishment of a loan service for deaf individuals and groups with an initial funding of $78,000, the program has grown to its present allocation of $6 million annually, and a projected $13 million for fiscal year 1973. In the beginning, the program was modeled after the private non-profit venture started at the American School for the Deaf in Hartford, Connecticut, in 1950 by Captioned Films for the Deaf, Inc.; this organization voluntarily dissolved its program and donated its entire film library to the federal government in 1959.

In addition to providing deaf persons with a free loan service of acquired, or specifically produced, captioned films, Public Law 85-905, as amended, authorized MSCF to conduct research, training, production, and distribution activities in the area of instructional media to promote the educational advancement of the handicapped.

LEGISLATIVE HISTORY

With the enactment of Public Law 85-905 in September 1958, a loan service of captioned films was established in the Department of Health, Education and Welfare for deaf individuals and groups. It has the following objectives:

1. To bring to deaf persons understanding and appreciation of those films which play such an important part in the general and cultural advancement of hearing persons;

2. To provide, through these films, enriched educational and cultural experiences so that deaf persons can be brought into better touch with the realities of their environment; and

3. To provide a wholesome and rewarding experience that deaf persons may share together.

To implement the provisions of this law, the Secretary of HEW was authorized to acquire films by purchase, lease or gift; to provide for the captioning of films and their distribution; and to utilize the facilities and services of other government agencies.

Federal funding of the program did not occur until July 1, 1959. The Office of Education administers the program. Public Law 87-715, enacted in 1963, amended the original authorization and broadened the scope of the program to include research and training activities.

A second amendment, Public Law 89-258, enacted in October 1965, doubled both the authorization and appropriation for captioned films to $3 million for fiscal year 1966. The new law also revised the objectives specified in the original legislation, thus permitting the program to make progress in other areas where the needs of the deaf had not been met. The revised objectives are as follows:

1. To provide enriched educational and cultural experiences for deaf persons by means of a free loan service of acquired or specifically produced captioned films; and

2. To promote the educational advancement of deaf persons by:

   a. carrying on research in the use of educational media for the deaf;

   b. producing and distributing educational media for the deaf, for parents of deaf children, and for other persons who are directly involved in work for the advancement of the deaf, or who are actual or potential employers of the deaf; and

   c. training persons in the use of educational media for the instruction of the deaf.

The law as amended on April 13, 1970, through enactment of the Education of the Handicapped Act (Public Law 91-230), Part F, expanded the authorization to promote use of educational media as a means for improving the educational environment of other handicapped children, as well as of deaf individuals. This amendment established two distinctive programs: (1) captioned films for the deaf, and (2) media services. It did not alter the film program for the deaf, which is specifically a captioned film loan service. Appropriation of funds for providing educational media services to other areas of handicapped has not yet materialized, although the authorization is there.

Public Law 91-230 also authorized the Secretary of HEW to enter into an agreement with an institution of higher education for the establishment and operation of a National Center on Educational Media and Materials for the Handicapped; the Center will provide a comprehensive program of activities to facilitate the use of new educational technology in education programs for handicapped persons, including designing, developing, and adapting instructional materials and other such activities. The National Center will, among other services, serve the educational technology needs of the Model Secondary School for the Deaf.

MAJOR ACTIVITIES

Research and Development

Activities initiated under this authority are developmental rather than being pure research. They relate specifically to the production, evaluation, and demonstration of

materials for use in such diverse programs as speech instruction, visual perception, cued speech, programmed language instruction, multi-media instruction of mentally retarded deaf persons, and captioned television and career education packages.

Training

The training program is generally carried out by the four Regional Media Centers for the Deaf located at New Mexico State University, Las Cruces, New Mexico; University of Nebraska, Lincoln, Nebraska; University of Tennessee, Knoxville, Tennessee; University of Massachusetts, Amherst, Massachusetts. This program consists of: (1) Short-term workshops for teachers, dormitory personnel, parents, vocational counselors, and teachers in training, among others; (2) three six-week summer institutes in instructional technology for educators of the deaf; and (3) the annual educational media symposium held in Lincoln, Nebraska, at the University of Nebraska. Participants in these symposiums include some of the best known individuals in the educational community.

Instructional Materials Centers

The Instructional Materials Centers Network has been transferred to the Media Services and Captioned Films Branch from the Division of Research – a step which further expanded its activities. Each Instructional Materials Center was to establish activities to accomplish the objectives of this new effort. The major functions of the IMC's are: (1) Development of prototypic materials and media needed by handicapped students; (2) training of teachers and other professionals to work with handicapped learners in developing media and materials utilization skills; (3) dissemination of information concerning media and materials for the handicapped; and (4) development of a delivery system for educational media and materials to give the handicapped learner what he needs when and where he needs it.

The above functions are carried out in cooperation with the four Regional Media Centers for the Deaf.

Production

Most of the Branch's materials are produced under contractual arrangements through joint efforts of the Bureau of Education for the Handicapped and the four Regional Media Centers of the Deaf. Each Center focuses on one or more specialties; e.g., transparency development, television applications, film and media production, curriculum and programmed instruction. Examples of materials produced in fiscal year 1971 include: Slides and programmed tasks for the basic electronic assembly series; career education transparencies; and teacher training kits in media production.

Acquisition

Major acquisition activities center on the procurement of media and materials, and include auxiliary services as they relate to caption script and study guide preparations for instructional films, the screening and evaluation of materials for use in the program, and the distribution of these materials. Acquisitions throughout fiscal year 1971 included: (1) Feature films – 54 titles, 648 prints; (2) educational subjects – 60 titles, 3,741 prints.

Film Audience

Groups registered to borrow captioned films numbered 2,763 in fiscal year 1971, compared with 2,588 at the close of fiscal year 1970. The audience reached by general interest films totaled 1,143,662. There were 10,011 showings throughout the year.

Due to commercial restrictions on certain types of films, captioned motion picture loans continue to be restricted to deaf persons and those who work with the deaf.

Despite the phenomenal transition from a limited film loan service for deaf individuals to a comprehensive program in the area of multi-media production and utilization, MSCF will not rest on its laurels, but will face up to the challenge of the difficult task ahead – that of providing educational media services to all handicapped children.

MEDIA SERVICES AND CAPTIONED FILMS RESEARCH AND DEMONSTRATION PROJECTS IN DEAFNESS, DIVISION OF EDUCATIONAL SERVICES, BUREAU OF EDUCATION FOR THE HANDICAPPED, OFFICE OF EDUCATION

Contract Number Contract Period(s) Total Amount	Project Title and Final Report	Sponsoring Institution and Project Director	Description of Research
OE-6-19-057 9/1/67-8/31/71 av. annual cost: $322,200	Project LIFE (Language Instruction to Facilitate Education) "Project LIFE (Language Instruction to Facilitate Education)"	National Education Association Washington, D.C. 20016 Glenn Pfau, Ph.D.	A continuation project to develop better methods and facilities for teaching language to deaf children – including production of programmed filmstrips and special books and picture dictionaries.
OEC-0-9-533511-4548 6/1/69-6/22/71 $286,270	Individualized Instruction for the Deaf "Individualized Instruction for the Deaf"	Callier Hearing and Speech Center, Dallas Texas 75235 Carl Nordwall, Ph.D.	To develop and demonstrate the efficiency of a systems based, educational technology oriented individualized instruction program for the deaf.
OEC-4-7-00269-0269 9/1/68-8/31/71 $177,159	Strengthening the Visual Perception of Deaf Children "Strengthening the Visual Perception of Deaf Children"	New Mexico State University, Las Cruces, New Mexico 88001 Robert Sachs, Ph.D.	A continuation proposal to test the effects of two training programs in visual perception with preschool deaf children and to test visual and tactile materials.

Contract Number Contract Period(s) Total Amount	Project Title and Final Report	Sponsoring Institution and Project Director	Description of Research
OEC-0-8-001920-2721 3/1/68-9/3/71 $197,029	A Learner-Centered, Automatic Self-Instruction System for Employment Preparedness Training of the Deaf in Electronic Assembly Skills "Electronic Assembly Instructional System for the Deaf"	TRW, Inc., TRW Systems, San Bernardino, California 92402 Leo Persselin, Ph.D.	To develop a system of automated self-instruction for the deaf which will provide training in seven basic manipulative skills required for employment as an electronic assembler.
OEC-0-8-001937-4348 7/11/69-9/10/71 $51,100	Cued Speech Follow-Up Program "Cued Speech Follow-Up Program"	Gallaudet College, Washington, D.C. 20002 Orin Cornett, Ph.D.	For the purpose of demonstrating the potentialities of effective use of Cued Speech by concentrating support, service, materials and guidance in ten key programs, and by developing techniques for recording and interpreting meaningful data relating to its use and effects.
OEC-0-9-483614-4467 6/18/70-6/17/71 $56,170	Feasibility Study Leading to the Development of Captioned TV "Feasibility Study Leading to the Development of Captioned Television"	HRB Singer, Inc., State College, Penna. 16801 Robert Root, Ph.D.	An investigation of the alternative methods for making television a more valuable educational and recreational medium of communication for the hard of hearing population and to study the effects of program captioning on the television viewing public with normal hearing.

Contract Number Contract Period(s) Total Amount	Project Title and Final Report	Sponsoring Institution and Project Director	Description of Research
OEC-9-70-0050 6/20/70-6/20/71 $34,409	An Institutional and Video Approach to the Mime to Develop Improved Communication Techniques for the Deaf "(same as above)"	Lewis and Clark College, Portland, Oregon 97219 Michael Cowan	The development of a videotape documenting a Mime class for deaf students to be eventually converted into a coherent film series designed to teach the art of pantomime to deaf students.
OEC-9-70-0049 6/20/70-12/19/71 $13,658	Auditory Training Program "Project to Develop an Auditory Training Program for Use with the *ARMS* Machine at the Oregon State School for the Deaf"	Oregon State University, Monmouth, Oregon 97361 David N. Grove, Ph.D.	A feasibility study to develop an auditory training program to be used with the Automatic Reading Monitor System (ARMS) that would teach hearing impaired children to make auditory discriminations.
OEC-9-9-483614-4467 8/18/71-3/17/72 $48,789	Specification of Compressed Caption Techniques and Investigation of Color TV "Specification of Compressed Caption Techniques and Investigation of Color Television"	HRB Singer, Inc. State College, Penna. 16801 Robert D. King, Ph.D.	A project to further investigate compressed captions to finalize production specification; to extend the investigations to color television and assess the feasibility of two techniques unique to color television.
OEC-0-71-4672 6/30/71-12/31/72 (18 months) $50,000	Development and Evaluation of Training Film and Related Material for Improving Communication Between Police and Deaf Persons	Michigan Association of the Deaf, Flint, Michigan 48507 John Claveau	To design, produce and evaluate a three-part training film with related materials for law enforcement officers and deaf persons to facilitate communication between police and deaf persons.

Contract Number Contract Period(s) Total Amount	Project Title and Final Report	Sponsoring Institution and Project Director	Description of Research
OEC-0-71-4673 6/30/71-6/29/72 $47,800	A Multiphase Project to Facilitate Vocational Exploration Via Media "(same as above)"	St. Paul Technical Vocational Institute, St. Paul, Minnesota 55102 Robert R. Lauritsen	This project will develop and promote relevant vocational education media that will lead to adequate career selection, career training and job opportunities for deaf and other handicapped persons.
OEC-0-71-4674 6/30/71-6/29/72 $70,125	Develop and Evaluate a Training Film Series in Total Communication to Facilitate Language Growth, Communication and Child-Parent Interaction in Young Deaf Children	Western Maryland College, Westminster, Maryland 21157 McCay Vernon, Ph.D.	To produce a series of films for use by preschool deaf children, their families, and professionals. The films are purposed to facilitate language growth, communication, and basic education in young deaf children.
OEC-0-71-4670 6/30/71-7/1/72 $188,916	Speech Training Aids for the Deaf "Speech Training Aids for the Deaf"	Bolt Beranek and Newman, Inc. Cambridge, Mass. 02138 Ray Nickerson, Ph.D.	The development of a cost-effective computer-based system of non-auditory aids for speech training for the deaf.

TRAINING FOR PROFESSIONAL WORKERS FOR THE DEAF
MEDIA SERVICES AND CAPTIONED FILMS
DIVISION OF EDUCATIONAL SERVICES, BUREAU OF EDUCATION FOR THE HANDICAPPED, OFFICE OF EDUCATION

Contract Number Program Title Starting Date Years in Operation Total Cost	Sponsoring Institution and Program Director	Description and Type of Program	Number and Description of Students Enrolled
OEC-1-7-000211-0211 Northeast Regional Media Center 9/1/65 6 $237,118*	University of Massachusetts Amherst, Massachusetts 01002 Raymond Wyman, Ph.D.	Conduct training, research and development in the area of educational and related media for improvement of instruction of the deaf, develop and utilize media in professional preparation of teachers, supervisors and others in the field, establish and expand needed media programs and services in 14-state area (in-service training programs, publications and consultations).	180 Teachers of the Deaf
OEC-3-7-000199-0199 Midwest Regional Media Center 9/1/65 6 $309,762*	University of Nebraska Lincoln, Nebraska 68508 Robert E. Stepp, Ph.D.	Design and development of instructional media for teaching the deaf, planning and conducting a symposium on research and utilization of educational media, planning and conducting an educational media institute, establish an area program for schools for the deaf located within Midwest region, provide the services of consultants and research people to schools for the deaf within the region.	180 Teachers of the Deaf

Contract Number Program Title Starting Date Years in Operation Total Cost	Sponsoring Institution and Program Director	Description and Type of Program	Number and Description of Students Enrolled
OEC-2-7-000235-0235 Southern Regional Media Center 9/1/65 6 $273,247*	The University of Tennessee Knoxville, Tennessee 37916 William Jackson, Ph.D.	Conduct training, research and development in the area of educational and related media for improvement of instruction of the deaf, develop and utilize media in professional preparation of teachers, supervisors and others in the field, establish and expand needed media programs and services in 12-state area (in-service training programs, publications and consultations).	180 Teachers of the Deaf
OEC-4-7-000183-0183 Southwest Regional Media Center 9/1/65 6 $497,269*	New Mexico Foundation, Inc. Las Cruces, New Mexico 88001 Hubert Summers	Training in utilization of instructional media in institutions involved in training teachers of the deaf, conducting workshops and demonstrations of media techniques, planning for future activities in curriculum service and instructional systems.	180 Teachers of the Deaf
OEC-0-8-001912-1920 Teaching Speech to the Deaf Phase II 11/1/67 2 $129,075	John Tracy Clinic Los Angeles, Calif. 90007 Edgar A. Lowell, Ph.D.	To prepare and evaluate materials for the improvement of the teaching of speech to deaf children, including instructional films and audiotapes for use with teachers of deaf children. To train teachers of the deaf to use the materials.	Teachers of the Deaf

Contract Number Program Title Starting Date Years in Operation Total Cost	Sponsoring Institution and Program Director	Description and Type of Program	Numbers and Description of Students Enrolled
OEC-0-70-053 Teaching Speech to the Deaf Phase III 11/1/70 8 months $10,637	John Tracy Clinic Los Angeles, Calif. 90007 Edgar A. Lowell, Ph.D.	An amended contract to produce copies of the speech training films, audiotapes and student manuals; the enlargement of the Instructor's Manual; and for support of dissemination activities to include five 2-day workshops.	College instructors and Speech specialists
OEC-0-9-233247-4519 Proposed Contract with National Safety Council 6/15/69 1 $22,794	National Safety Council Chicago, Illinois 60611 Chris Imhof	A workshop to train persons working with the deaf as certified instructors of the nationally known Defensive Driving Course so that persons who can readily communicate with the deaf can make this course available to deaf adults and young deaf people throughout the country.	60 Professional Persons working with the Deaf, including Teachers of the Deaf
OEC-0-71-4358 Educational Theatre Program for the Deaf 6/1/71-5/31/72 1 $131,040	Eugene O'Neill Memorial Theatre Foundation, Inc. Waterford, Conn. 06385 David Hays	To provide intensive training in the theatre arts to qualified deaf applicants in hopes of promoting drama as an educational and creative force in schools and other programs for the deaf throughout the nation.	35 Deaf Students

*1971 Total.

MAJOR ACQUISITION ACTIVITIES
MEDIA SERVICES AND CAPTIONED FILMS
DIVISION OF EDUCATIONAL SERVICES, BUREAU OF EDUCATION FOR THE HANDICAPPED, OFFICE OF EDUCATION

Project Title Duration Average Annual Cost	Sponsoring Institution and Project Director	Description of Program
Screening and Evaluation of General Interest Films for Captioning Since 7/1/67 $6,600	National Association of the Deaf Silver Spring, Maryland 20910 Frederick Schreiber	A continuation project to assist MSCF in screening and evaluating general interest films for captioning and use in the program libraries of captioned films for the deaf.
A Program to Evaluate and Select Instructional Films for Captioning Since 9/1/68 $36,078	Lexington School for the Deaf Jackson Heights, New York 11370	A continuation project to assist MSCF in screening and evaluating commercial educational films for adaptation and/or captioning for use in the program libraries of instructional films for the deaf.
General Interest Films Since 10/60 Approx. $650,000	Various major film producers	An ongoing program to acquire and caption various general interest films for use by deaf audiences.
Educational Films Since 3/61 Approx. $650,000	Various educational film producers	An ongoing program to acquire and caption various educational films for use with deaf students and persons working with the deaf.
Workshop for the Development of Study Guides for Educational Films Since 7/65 $24,000	Sponsoring institutions vary annually	A continuation project to conduct a workshop for the development of caption scripts and study guides for educational films.

REHABILITATION OF THE DISADVANTAGED,
Terrie G. Raphael*

The counselor should: (1) examine his own values, background and experiences; (2) learn about the culture, history and locale of his client population; (3) develop a sensitivity to non-verbal, as well as verbal cues in communication – both on his part and by the client; (4) seek out the client in his environment; (5) clarify both short and long-term goals; and (6) remain flexible in his approach.

*Quotation from Second Place Award, Graduate Literary Awards Contest (1972), National Rehabilitation Association.

MATERNAL AND CHILD HEALTH SERVICE
HEALTH SERVICES AND MENTAL HEALTH ADMINISTRATION

The Maternal and Child Health Service administers funds appropriated under Title V of the Social Security Act for Maternal and Child Health and Crippled Children's Services. Some of the funds, available in the form of formula grants to State Maternal and Child Health Service and Crippled Children's Service agencies, are used to provide services for children with hearing and speech impairments.

Other programs administered by the Maternal and Child Health Service under Title V of the Social Security Act also help with hearing and speech services for mothers and children. These are supported by special project grants for the comprehensive health care of children and youth, for maternity and infant care, and for training professional personnel and conducting research related to the health of mothers and children.

State Services

Services provided in a hearing and speech program in a State Maternal and Child Health Service or Crippled Children's Service program include medical and surgical treatment, hospitalization and after-care, audiology and speech pathology services, nursing, social work and psychology services, and other health services as required, including provision of hearing aids.

While services for hearing and speech impairments are available throughout the nation, their nature and scope vary among the states and among communities within the states. The variation is principally in the extent to which the services are available, rather than in their nature.

The total costs for hearing and speech programs under the formula grants to Maternal and Child Health Service and Crippled Children's Service agencies are not now identified. Some of those related to a hearing and speech program are basically the costs of overall preventive health services and health care provided to children. For example, the program for immunization is significant in the prevention of diseases leading to sensorineural hearing impairments. Similarly, medical treatment of upper respiratory infections and of acute otitis media is a significant part of preventing conductive hearing impairments. Just as the provision of early health care is an essential part of a hearing and speech program, so hearing and speech services are essential to a health delivery system. The health services that are required for an effective hearing and speech program include a wide range of disciplines involved in casefinding, assessment, medical and non-medical treatment and therapy, counselling, and habilitation.

In most states, the Maternal and Child Health Service and Crippled Children's Service agencies employ professionally qualified speech pathologists or audiologists to develop and deliver a program for hearing and speech services. In some states, both the Maternal and Child Health Service and Crippled Children's Service agencies have

employed supervisory personnel in speech pathology and audiology. Treatment services also are purchased from existing hearing and speech facilities, and from professional personnel in hospitals, rehabilitation centers, and other centers.

During the last several years, the State Maternal and Child Health Service agencies have reported testing the hearing of over 5,000,000 children each year. Most of the hearing testing programs are directed to school-age children; although some states have included those of preschool age. The number of children found by these hearing tests to need medical and other help is approximately 2 to 3 percent of the total. Less than 1 percent is found to be severely handicapped. Each year the State Crippled Children's Service annual reports document provision of services to more than 50,000 children with hearing impairments.

Hearing aids were provided to approximately 7,000 children during the last year for which data are currently available (fiscal year 1970). Selection procedures and costs of the aids vary from state to state.

Project Grants

Hearing and speech services are an integral part of Maternal and Child Health Service project grants for comprehensive health services for children and youth who live in poverty areas. The projects provide screening, diagnostic, preventive, corrective and follow-up services. Over 100 hearing and speech staff are currently employed in these projects to provide speech pathology and audiology services.

Hearing and speech services are also included in many of the demonstration projects under the formula grants program. A few of these are: Development of multidisciplinary programs to aid children with cleft lips and cleft palates; comprehensive long-term management of children with multiple handicaps; diagnostic clinic for children with learning disabilities.

Special projects specific to the hearing and speech field include grants to (1) the Colorado State Department of Health for demonstrations related to hearing conservation; (2) the Iowa Crippled Children's Service to explore developments in providing hearing and speech services to mentally retarded children; (3) the Hawaii State Department of Health related to reducing the prevalence of otitis media; and (4) the Alaska Department of Health to develop a joint program in audiology with the Indian Health Service.

Training Grants

Discipline Oriented Programs. The training activities of the Maternal and Child Health Service have been complemented by grants for training made to universities by the Social and Rehabilitation Service and the Office of Education. These programs have supported the training of hearing and speech specialists who have provided services to the Maternal and Child Health Service and Crippled Children's Service programs.

Grants for training in speech pathology and audiology continue at the Johns Hopkins University, University of Iowa, University of Oklahoma Medical School, University of Kansas Medical School, and the New York University Medical School.

When the Children and Youth Projects were begun in 1966, the Maternal and Child Health Service recognized the need to train hearing and speech specialists to work

effectively with children in areas with predominantly black populations. At that time the Maternal and Child Health Service attempted to develop a new kind of training program, and a cooperative training program in hearing and speech was finally established and funded in 1970 at Vanderbilt University and at Tennessee State University. This unique approach to hearing and speech training is expected to make use of the best of both training programs in speech pathology and audiology. (Table 1)

Multidiscipline-oriented, University-affiliated Training Centers. Nineteen university-affiliated training centers receive support from the Maternal and Child Health Service to train students from over 15 health professionals to work together to care for handicapped children. Each program has developed a hearing and speech component with varying numbers of professional staff. Most of the centers receive financial support for traineeships in speech pathology and audiology. (Table 2)

Research

Grant support is given to research activities which show promise of substantial contribution to the advancement of Maternal and Child Health Service and Crippled Children's Service. A number of the projects are related to the prevention of deafness and to a variety of health services to children who are or who may become deaf. The projects listed in Table 3 represent only those concerned specifically with the problem of deafness.

International Research

The international research activities of the Maternal and Child Health Service are a part of the Health Services and Mental Health Administration's effort to conduct health-related research in various countries. This work is supported by the special foreign currency accruing to the United States as the result of the sale of surplus agricultural products (so-called Public Law 480 funds). To be funded, the research must be of benefit to the United States as well as to the cooperating foreign country. (Table 4)

Table 1. TRAINING PROGRAMS

Program Title and Years in Operation	Sponsoring Institution and Program Director	Type of Training	Kind of Students Enrolled
Training in Audiology 21	Johns Hopkins University Medical School, Baltimore, Maryland William Hardy, Ph.D.	Audiologists and Speech Pathologists	Master's and Ph.D. level
Audiology and Speech Pathology Training 16	University of Iowa, Iowa City, Iowa Kenneth H. Moll, Ph.D.	Audiologists and Speech Pathologists	Master's and Ph.D. level
Audiology Training 14	University of Kansas, Lawrence, Kansas Herbert C. Miller, M.D.	Audiologists and Speech Pathologists	Master's and Ph.D. level
Training in Communicative Disorders 6	University of Oklahoma Medical School, Norman, Oklahoma John Keys, Ph.D.	Audiologists Pediatricians Otolaryngologists Speech Pathologists	Master's and Ph.D. level
Audiology and Speech Pathology 9	Vanderbilt University, Bill Wilkerson Center, Nashville, Tennessee Freeman McConnell, Ph.D.	Audiologists and Speech Pathologists	Master's level
Pediatric Audiology 5	New York University, New York, New York John Daly, M.D.	Audiologists and Speech Pathologists	Post M.A. level

Table 2. UNIVERSITY-AFFILIATED TRAINING CENTERS

Program Title and Grantee

University-Affiliated Training Program in Mental Retardation
John F. Kennedy Institute
Baltimore, Maryland

Mental Retardation Training
University of Oregon Medical School

University-Affiliated Retardation Center
New York Medical College

Mental Retardation Training-Key Personnel
Ohio State University Hospital

Mental Retardation Training
University of Michigan

Mental Retardation Training Program
Indiana University Medical Center

Child Development Center and Interdisciplinary Training Facility
Georgetown University Hospital

Comprehensive Interdisciplinary Training
John F. Kennedy Child Development Center
University of Colorado

The Neuropsychiatric Institute
UCLA Center for the Health Sciences

Multidisciplinary Training for Mental Retardation Personnel in a Pediatric Center
Children's Hospital Medical Center
Boston, Massachusetts

Table 3. RESEARCH GRANTS IN THE AREA OF DEAFNESS

Grant Number Starting Date Duration	Project Title and Final Report	Sponsoring Institution and Project Director	Description of Research
H-331 1970 5 years	Family Interaction, Language, and Deafness	Langley Porter Neuropsychiatric Institute, San Francisco, California Hilde S. Schlesinger, M.D.	To describe the development of reciprocal parent-child communication in families with a deaf child.
MC-R-420022 1971 3 years	Auditory and Visual Perceptual Deficit and Neonatal Jaundice	Pennsylvania Hospital Philadelphia, Pa. Lois Johnson, M.D.	To develop a modification of the currently practiced program for the management of neonatal jaundice which will significantly reduce the incidence of central auditory and visual motor perceptual deficit.

Table 4. INTERNATIONAL RESEARCH PROJECTS

Grant Number	Title	Grant Period	Cost	Principal Investigator
SRS/CB Israel-14	Deafness and Deafmutism in Endemic Goiter Areas	5/65-6/68	$ 19,433	Dr. David Barzilai, Director, Medical Dept. & Endocrine Unit, Rambam Government Hospital, Haifa, Israel
SRS/CB Poland-3	Auditory Impairment of Children in Poland	4/64-10/68	80,227	Dr. Danuta Borkowska-Gaertig, Research Institute for Mother and Child, Warsaw, Poland
05-479-2	Demonstration and Study of Services for Children with Severe Hearing Impairment	2/69-12/73	178,950	Dr. Danuta Borkowska-Gaertig, Research Institute for Mother and Child, Warsaw, Poland
06-480-2	Evaluation of Methods for Detecting Hearing Impairment in Infancy and Early Childhood	9/66-7/73	193,948	Dr. Moshe Feinmesser, Hadassah Medical Center, Jerusalem, Israel
06-482-2	Automatic Screening of Newborns for Deafness	4/71-4/73	17,617	Dr. M. M. Altman, Rambam Government Hospital, Haifa, Israel
02-481-2	Early Identification of Hearing Impairment	4/71-3/75	128,765	Dr. Dragoljub Vukotic, Center for Rehabilitation of the Deaf, Belgrade, Yugoslavia
06-475-2	Cytogenetic and Dermatoglyphic Aspects of Inherited Deafness in Children	1/66-12/69	20,731	Dr. Simon Winter, Pediatric Department, Rothschild Hospital, Haifa, Israel

EVALUATING VOCATIONAL EVALUATION,

Cary B. Barad*

The need to assess the relative worth of existing vocational evaluation systems is clear, and specific strategies for developing such comparisons have been presented. It may be, however, that vocational evaluators also vary as individuals in the interpersonal impact they exert, and in the predictions they derive from any given vocational evaluation system. Differences in educational level, theoretical orientation, experiential background, and personality have yet to be related to long or short-term outcomes in rehabilitation.

The need for intensifying and broadening the scope of such studies has been highlighted by more recent findings that vocational evaluators continue to rely most heavily upon highly subjective, unstandardized, "homemade work samples" and simulated tryouts.

*Quotations from Third Place Award, Graduate Literary Awards Contest (1972), National Rehabilitation Association.

NATIONAL INSTITUTE OF NEUROLOGICAL DISEASES AND STROKE

Public Health Service

Data Furnished
By DR. ELDON L. EAGLES
Deputy Director

I. PURPOSE, ACTIVITIES, GOALS AND LEGISLATIVE AUTHORIZATION

The National Institute of Neurological Diseases and Stroke conducts, fosters, and coordinates research on the causes, prevention, diagnosis, and treatment of the neurological and sensory disorders of mankind, and conducts basic research in related scientific disciplines. In fulfilling these responsibilities, the Institute:

(1) Provides leadership, counsel, technical advice and guidance in developing and maintaining a nationwide research and research training effort in the area of its program responsibilities.

(2) Administers a program of grants-in-aid for research to public and private institutions and individuals in fields related to its areas of interest, including research project, program project, and center grants.

(3) Administers a program of training grants and awards to increase the availability of trained professional research manpower in areas related to the program responsibilities of the Institute.

(4) Conducts a diversified program of intramural and collaborative research in its own laboratories, branches, and clinics.

(5) Administers a program of scientific information exchange through which the results of scientific investigators are rapidly disseminated to the scientific community.

On August 15, 1950, President Harry S. Truman signed Public Law 692, 81st Congress, establishing NINDS.

Hearing and Speech

NINDS grants for individual research projects in disorders of hearing and equilibrium, and disorders of speech and other higher central nervous system functions, numbered 185 in fiscal year 1971 and involved awards amounting to over $8 million. This is approximately 10 percent of the Institute's research grant support in the neurological and sensory diseases. The following items illustrate the wide range of projects:

(a) NINDS-supported scientists demonstrated a method for faster and more efficient delivery of an adequate dose of ultrasonic energy into the labyrinth in treating Meniere's disease without severely damaging the facial nerve.

(b) Two grantees established that quantitative measurement of airflow during speech can help physicians diagnose different disorders of the larynx.

(c) A mechanism within the neuron was described which indicated that the interplay of excitatory and inhibitory post-synaptic potentials is important in localizing the directional origin of sound.

(d) In addition to the conductive hearing losses produced by stapes fixation, otosclerosis was shown to produce a variety of other hearing impairments due to involvement of the inner ear causing neurosensory hearing impairment.

(e) There has long been a significant difference between specifications set for American puretone audiometers and the British type used not only in Great Britain but also in most of Europe. The adoption of a new International Standard for reference zero levels for audiometers promises to resolve much of the resulting confusion in reporting scientific study results and in the interpretation of audiometric tests. Institute grantees have contributed significantly to the development of the new International Standard.

Approach to Prevention of Sensory Disorders

In its program to prevent deafness and speech disorders, the Institute is supporting five major clinical research centers and program projects. These cover a wide range of activities; the study of diseases of the ear, the mechanism of hearing, disturbance of language perception and formulation, and the normal and abnormal processes of speech production. A temporal bone bank program also has been established to clarify the nature of the diseases producing deafness.

Other Efforts to Remedy Hearing Loss

Efforts are also under way to develop other means of communication for those with severe hearing loss. For those with even minimal residual hearing, the use of hearing aids is proving very beneficial, especially in the child's efforts at acquisition of language. In others, vibrations through the skin may be utilized for hearing. To date, efforts to provide a sensory input directly to the brain, bypassing the ear, have produced only crude noises. Much more must be learned about the neural processes of hearing before a meaningful signal can be introduced into the system.

Clinical and Research Centers

This year the Institute established a section on communication disorders as part of the Collaborative and Field program. The section will seek to improve diagnosis and treatment of communicative and other sensory disorders. In addition, the Institute plans to establish a laboratory of neuro-otology at the Bethesda campus which would serve as a focal point for communication research.

The Institute is supporting five multidisciplinary research centers where projects covering various aspects of human communications research are being carried out, both in

the clinical and laboratory areas. In addition to these research centers, three clinical out-patient centers have been established. A specialized information center for Hearing, Speech, and Disorders of Human Communication has also been established. The clinical centers are located at:

(1) **University of Chicago**
This center concentrates on the clinical investigation of disorders involving principally hearing and equilibrium. It is supported by various laboratory studies including electrophysiology of the cochlea, factors influencing location of sound in space, bone conduction of sound, eustachian tube function, vestibular nerve pathways in animals, and the response of humans to various postural tests. This center has aided in developing the temporal bone banks program of the Institute in cooperation with the Deafness Research Foundation. This program is an attempt to further the understanding of hearing impairment by the study of temporal bones of known cases of deafness bequeathed to medical institutions. Also at this institution, a unit of research beds is provided to hospitalize cases of poorly understood deafness and vertigo. The John Hopkins University Department of Otolaryngology, the University of California at San Francisco, and Baylor University at Houston, Texas, have also established bone bank centers.

(2) **Central Institute for the Deaf**
The center at the Central Institute for the Deaf, St. Louis, carries on studies of normal auditory function including parallel studies of communication by vision, touch, and vibration. Other studies include disorders of auditory communication including loss or impairment of hearing; disorders of auditory perception; failure to attach meaning to sounds, and difficulties in understanding, in formulating, and in producing spoken language. Work of the research department in this center is divided into four areas represented by the laboratories of physiology, electroencephalography, psychology, and electrical engineering and physical acoustics.

(3) **Princeton University**
The nature of hearing is the subject of study at Princeton University. This program encompasses the investigation of hearing in all its fundamental aspects including sound conduction in the ear, physiology of the cochlea and the auditory nervous system, overstimulation and protection of the ear and a comparative study of hearing mechanisms and their functions in various animals and reptiles. Facilities to study hearing in the ultrasonic range have been developed as part of a program to study the evolution of the ear involving hearing in bats, amphibians, reptiles, and several mammals.

(4) **The Kresge Institute**
The Kresge Hearing Research Institute at Ann Arbor, Michigan, is working on the causes of deafness.

(5) **University of Florida**
Scientists at the University of Florida are working on the physics and physiology of voice production, the psychology of speech behavior in children, parent-child communication and first language acquisition, linguistics, and noise pathology.

In addition to these centers, the Institute's cerebrovascular center at Boston University is emphasizing research on aphasia.

Research Programs

The Research Grants Program of the National Institute of Neurological Diseases and Stroke is designed to stimulate and support scientific investigations in the neurological, sensory, communicative, and related fields. It is an award of funds for research made by NINDS to an institution on behalf of an individual. Awards are made following review and recommendation of approval of an application by the Advisory Council of NINDS.

NINDS supports research concerned with the cause, development, diagnosis, therapy, and prevention of such disorders as: multiple sclerosis, cerebrovascular diseases, epilepsy, muscular dystrophy, cerebral palsy, mental retardation, encephalitis, stroke, brain tumor, Meniere's syndrome, aphasia, otosclerosis, and other disorders of the nervous system, hearing, equilibrium, and speech.

Support is given for basic neuroscience research as well as clinical studies. Areas of basic science support include neuroanatomy, neurochemistry, neuropathology, epidemiology, neuropharmacology, neurophysiology, neuroradiology, sensory physiology, psychology, physics, and related disciplines.

This program is intended to supplement rather than replace support from foundations, private philanthropies, or private health organizations in the scientific fields related to health problems.

Basic Neuroscience Research

Within the intramural program, at the Bethesda laboratories, research has focused on the basic mechanism and structure of the ear, especially the anatomical passageways for hearing and the feedback mechanism of nerves from the brain to the ear. The present research program has resulted in a further clarification of the details of structure of the inner ear. It has specified more precisely the pathways and terminations of afferent and efferent nerve fibers between brain and ear. The discovery of this efferent nerve system and its function is one of the most significant advances in recent years in understanding how we hear.

Neuroanatomy and Neurophysiology

Other studies of the auditory pathways are revealing in increasing detail not only the intimate structure of the auditory apparatus for converting sound waves to electrical messages, but also the complex of central brain connections that distribute and operate upon the incoming auditory information.

The Collaborative Perinatal Project

The Institute's Collaborative Perinatal Project at 14 collaborating institutions for the study of 58,000 pregnancies continues to provide a vast store of information regarding causes of communicative disorders. This information will receive further analysis as the project continues its observation of developing children. In addition advantage will be taken of the unique opportunity to carry out special adjunct studies on the mechanisms involved in development of communicative disorders.

Variety of Factors

Because of the importance of prenatal and perinatal factors in communicative disorders, the Institute has included evaluation of these factors in the Collaborative Project and in its perinatal research laboratories in Bethesda and Puerto Rico. Factors being investigated include maternal infection with a variety of virus diseases (particularly rubella), drug action, asphyxia at birth, and metabolic disorders.

Program Direction and Trends

Council Subcommittee. The NINDS Subcommittee on Human Communication and its Disorders was formed by action of the Institute's Council early in 1965 to review the field and identify areas of need. Based on their study, the Subcommittee published a report, entitled *Human Communication and its Disorders, an Overview.* The report describes what is currently known in the areas of speech, hearing, and language, and pinpoints problems which need continued research. In addition, it defines the field of communication and its disorders, and provides estimates on the prevalence of various disorders.

Institute Conferences. Recently the Institute has sponsored several conferences on communication. One conference concerned the feasibility of improving hearing aids for sensory-neural hearing loss. At two other conferences, held at The Johns Hopkins Communication Center, some of the nation's outstanding scientists discussed new research on the anatomy and physiology of the auditory system.

Communications Information Center. Rapidly increasing research and publication of results require some mechanism for review, evaluation, and dissemination of findings, to facilitate early application of these findings and effective research planning. For this reason, the Institute is supporting a Specialized Information Center for Hearing, Speech, and Disorders of Human Communication, at The Johns Hopkins University, which reviews and evaluates published material, and carries on an active program of dissemination of information in a variety of ways. In addition, the Institute will expand, broaden, and correlate its research program in this area to provide the necessary support to a center of this type. The Information Center has assisted the Institute in planning both its extramural and intramural programs.

Training Programs. The Institute training grant programs and its support of fellowships and career development awards form a most important part of the program to combat communicative disorders. Trained professional personnel to carry on teaching and training programs and to conduct the needed research have been significantly increased in numbers, but many more are needed. The Institute provides support to 57 training programs in otolaryngology, audiology, and speech pathology, and sensory physiology. There are 337 postdoctoral students receiving training in these programs. Developmental training grants to two programs in otolaryngology are currently in effect. Support for ten Career Development Awards and two Career Awards have been provided for outstanding scientists of proven competence.

The Institute's training program has shown considerable growth since its inception in 1957, and it is gratifying to find many of the early trainees now directing both teaching and research programs of their own. This latter outcome of the training has resulted in an increased need for further training support.

NATIONAL INSTITUTE OF NEUROLOGICAL DISEASES AND STROKE

RESEARCH SUPPORT IN THE COMMUNICATIVE SCIENCES

Date of Report 03-29-72

Grant Number / Project Title	Project Period	Fiscal Year 1971 Award	No. of Future Years	Sponsoring Institution and Project Director
R01 NS00682-17 Alterations of Cochlear Potentials	09-01-69 08-31-74	25,359	3	University of Chicago Chicago Illinois Fernandez Cesar MD
R01 NS01310-15 Psychophysical Characteristics of Hearing Disorders	04-01-69 03-31-74	47,251	2	Northwestern University Evanston Illinois Carhart, Raymond T PhD
R01 NS01330-15 Vestibular System Clinical and Experimental Research	05-01-69 04-30-74	42,051	2	University of Chicago Chicago Illinois Fernandez, Cesar MD
R01 NS01344-15 Physiological Studies of the Auditory System	06-01-68 05-31-73	184,034	1	Massachusetts Eye and Ear Infirmary Boston Massachusetts Kiang, Nelson Y PhD
R01 NS01538-13 Vestibular System	09-01-67 08-31-72	7,546	1	Columbia University New York New York Carpenter, Malcolm B MD
R01 NS01791-13 Metabolism of Bony Otic Capsule	09-01-68 08-31-73	55,174	2	Washington University Saint Louis Missouri Marovitz, William F PhD

R01	NS01832-13	09-01-68	08-31-73	31,388		New York University		
	Correlation of Inner Ear Pathology and Function				2	New York	New York	
						Daly, John F		MD
R01	NS02167-12	09-01-67	08-31-72	50,752		Stanford University		
	Correlations of Electrophysiological Measures of Hearing				1	Stanford	California	
						Simmons, F. Blair		MD
R01	NS02182-12	12-01-69	11-30-74	53,161		Johns Hopkins University		
	A Histopathologic Study of Human Temporal Bones				3	Baltimore	Maryland	
						Nager, George T		MD
R01	NS02482-11	04-01-70	03-31-72	24,431		University of Brussels		
	Neural Mechanisms in Acoustic Perception				0	Brussels	Belgium	
						Desmedt, John E		MD
R01	NS02484-11	12-01-68	04-30-72	22,758		New York University		
	Measurement of Hearing by Operant Methods				0	New York	New York	
						Daly, John F		MD
R01	NS02503-12	06-01-71	05-31-74	60,346		Yeshiva University		
	The Use of Sensory Information by Nonverbal Children				2	New York	New York	
						Rapin, Isabelle		MD
R01	NS02662-11	09-01-69	08-31-73	44,975		University of Iowa		
	A Study of the Physiology of Speech Breathing				2	Iowa City	Iowa	
						Hardy, James C		PhD
R01	NS02974-10	02-01-67	12-31-72	41,315		Harvard University		
	Psychophysics and Hearing				0	Cambridge	Massachusetts	
						Stevens, S Smith		PhD
R01	NS03032-11	01-01-67	12-31-71	22,340		University of Pittsburgh		
	Frequency Resolution in Normal and Impaired Hearing				0	Pittsburgh	Pennsylvania	
						Bilger, Robert C		PhD

Grant Number / Project Title	Project Period	Fiscal Year 1971 Award	No. of Future Years	Sponsoring Institution and Project Director
R01 NS03290-09 Evoked Potential Audiology	09-01-68 08-31-71	26,819	0	University of Oklahoma Medical Center Oklahoma City Oklahoma Ruhm, Howard B PhD
P01 NS03358-10 Sensory Disease Clinical Research Center	10-01-68 09-30-75	105,934	4	University of Chicago Chicago Illinois Naunton, Ralph F MD
R01 NS03410-10 Dynamics of Inner Ear Fluids	09-01-67 08-31-72	21,222	1	University of Michigan Ann Arbor Ann Arbor Michigan Lawrence, Merle PhD
R01 NS03451-10 Random Noise Analysis in Vestibular Evaluation	01-01-69 12-31-73	31,721	2	University of Florida Gainesville Gainesville Florida Singleton, George T MD
R01 NS03648-10 Effect on Hearing of Tropical and Nutritional Diseases	10-01-70 01-31-72	15,742	0	Christian Medical College Vellore India Kapur, Yash P MD
R01 NS03649-10 Effect on Hearing of Tropical and Nutritional Diseases	10-01-70 09-30-73	11,973	2	Johns Hopkins University Baltimore Maryland Bordley, John E. MD
R01 NS03654-10 Mechanical Properties of the Ear	04-01-69 03-31-74	60,736	2	Columbia University New York New York Tonndorf, Juergen MD

P01	NS03768-10	01-01-70	12-31-72	36,850	University of Chicago		
	Support of the Midwest Temporal Bone Banks Center				0 Chicago	Illinois	
					Lindsay, John R		MD
P01	NS03798-09	10-01-69	09-30-74	172,977	Princeton University		
	[illegible]				3 Princeton	New Jersey	
					Wever, Ernest G		PhD
R0	[illegible]03855-0[illegible]	[illegible]01-69	08-31-74	77,650	University of Iowa		
	Surgical Anatomy of the Ear and Temporal Bone				3 Iowa City	Iowa	
					Anson, Barry J		PhD
P01	NS03856-09	10-01-69	09-30-74	393,224	Central Institute for the Deaf		
	Auditory Communication and its Disorders				3 Saint Louis	Missouri	
					Hirsh, Ira J		PhD
R01	NS03932-10	04-01-67	03-31-74	37,823	Massachusetts Eye and Ear Infirmary		
	Electron Microscopy of the Inner Ear				2 Boston	Massachusetts	
					Kimura, Robert S		BA
R01	NS03950-09	09-01-67	08-31-72	106,291	Syracuse University		
	Sensory Processes				1 Syracuse	New York	
					Zwislocki, Jozef J		DSc
R01	NS03953-09	12-01-68	11-30-71	47,987	Wayne State University		
	Temporal Bone Pathology				0 Detroit	Michigan	
					Benitez, Jaime T		MD
R01	NS03995-09A1	01-01-71	12-31-73	43,699	Yale University		
	Electron Microscopy of the Inner Ear				2 New Haven	Connecticut	
					Hilding, David A		MD
R01	NS04003-09	01-01-69	05-31-72	23,226	Royal Institute of Technology		
	Acoustic Specification of Speech				0 Stockholm	Sweden	
					Lindblom, Bjorn E		PhD

Grant Number / Project Title	Project Period	Fiscal Year 1971 Award	No. of Future Years	Sponsoring Institution and Project Director
R01 NS04084-09 Effect of Sensorineural Lesions on Audition	09-01-67 08-31-72	36,402	1	Henry Ford Hospital Detroit Michigan Elliott, Donald N PhD
R01 NS04105-09 Hearing Loss and the Perception of Complex Sounds	09-01-70 08-31-73	39,254	2	University of Pittsburgh Pittsburgh Pennsylvania Bilger, Robert C PhD
R01 NS04143-09 Cochlear Hair Cell Metabolism and Cochlear Potentials	09-01-68 08-31-71	24,708	0	Univ of Vermont & St Agricultural Col Burlington Vermont Chambers, Alfred H PhD
R01 NS04332-09 Physiological and Acoustical Studies of Speech	06-01-68 05-31-73	115,286	1	Massachusetts Institute of Technology Cambridge Massachusetts Stevens, Kenneth N ScD
R01 NS04403-09 The Determination of Susceptibility to Hearing Loss	12-01-69 11-30-72	29,626	1	University of Minnesota Minneapolis Minneapolis Minnesota Ward, W Dixon PhD
R01 NS04420-07 Comparative Studies of the Auditory System	05-01-69 12-31-71	16,929	0	Thomas Jefferson University Philadelphia Pennsylvania Moskowitz, Norman PhD
R01 NS04615-98 Fluid Barriers Within the Cochlea	09-01-68 08-31-71	29,720	0	University of Minnesota Minneapolis Minneapolis Minnesota Duvall, Arndt J, III MD

R01 NS04799-07 04-01-68 03-31-71 5,628
Diagnostic Aspects of Electrecencephalic Audiometry

0 Jewish Hospital of St Louis
Saint Louis Missouri
Shepherd, David C PhD

R01 NS05016-08 01-01-70 12-31-74 56,185
Electro-Anatomy of the Cochlea

3 University of Florida Gainesville
Gainesville Florida
Konishi, Teruzo MD

R01 NS05065-08 01-01-68 12-31-72 53,396
Microscopic Studies of the Inner Ear

1 University of Michigan Ann Arbor
Ann Arbor Michigan
Hawkins, Joseph E, Jr PhD

R01 NS05077-08 01-01-67 12-31-71 73,601
Latency-Intensity Functions in the Auditory System

0 University of Michigan Ann Arbor
Ann Arbor Michigan
Stebbins, William C PhD

R01 NS05082-06 09-01-67 04-30-71 8,706
An Investigation of Auditory Adaptation

0 Thomas Jefferson University
Philadelphia Pennsylvania
Wilpizeski, Chester R PhD

R01 NS05083-08 01-01-69 08-31-72 19,433
Influence of the Tympanic Muscle Integrity

0 Henry Ford Hospital
Detroit Michigan
Hayden, Royal C, Jr MD

R01 NS05143-07 01-01-66 08-31-71 39,279
Neural Encoding of Patterned Acoustic Stimuli

0 Johns Hopkins University
Baltimore Maryland
Goldstein, Moise H, Jr ScD

R01 NS05180-09 06-01-70 05-31-73 11,812
Histopathology of the Temporal Bone

1 University of Oklahoma Medical Center
Oklahoma City Oklahoma
Snow, James B, Jr. MD

R01 NS05237-08 05-01-70 04-30-75 34,959
Physiology of Auditory and Vestibular Systems

3 University of Chicago
Chicago Illinois
Goldberg, Jay M PhD

Grant Number / Project Title	Project Period	Fiscal Year 1971 Award	No. of Future Years	Sponsoring Institution and Project Director
R01 NS05427-07 Studies of Echolocation Systems	09-01-68 08-31-71	54,706	0	University of California Los Angeles Los Angeles California Norris, Kenneth S PhD
R01 NS05464-07 Perception of Complex Auditory Stimuli by the Deaf	01-01-69 12-31-73	66,896	2	Gallaudet College Washington Dist of Col Pickett, James M PhD
R01 NS05465-07 Neuromuscular Dysfunction in the Larynx and Pharynx	01-01-68 12-31-72	32,428	1	Yale University New Haven Connecticut Kirchner, John A MD
R01 NS05491-07 Inner Ear Vascularity Deafness and Vertigo	09-01-69 08-31-72	28,059	1	University of Michigan Ann Arbor Ann Arbor Michigan Ritter, Frank N MD
R01 NS05700-07 Regulatory Mechanisms in Auditory Perception	01-01-68 12-31-71	34,868	0	Stanford University Stanford California Chow, Kao L PhD
P01 NS05785-06 Causes of Deafness	09-01-65 08-31-72	355,576	1	University of Michigan Ann Arbor Ann Arbor Michigan Lawrence, Merle PhD
R01 NS05800-06A2 Auditory Systems	05-01-71 04-30-74	42,610	2	New York University New York New York Webster, Douglas B PhD

R01	NS05873-06	04-01-69	03-31-72	26,712
	Binaural Hearing			
	University of California Los Angeles			
0	Los Angeles	California		
	Dirks, Donald D			PhD
R01	NS05881-06	09-01-70	08-31-75	19,243
	Otopathology by Light Microscopy			
	Massachusetts Eye and Ear Infirmary			
4	Boston	Massachusetts		
	Schuknecht, Harold F			MD
R01	NS06200-06	09-01-68	08-31-73	115,092
	Physiology of Deglutition and Voice in Larynx Analogue			
	Washington University			
2	Saint Louis	Missouri		
	Ogura, Joseph H			MD
R01	NS06205-05	06-01-70	08-31-71	2,109
	Tactile Communication of Speech to the Deaf			
	City University of New York			
0	New York	New York		
	Kirman, Jacob H			PhD
R01	NS06306-06	02-01-69	01-31-73	40,405
	Evoked Potentials in Audiovestibular Research			
	Mayo Foundation			
1	Rochester	Minnesota		
	Cody, Douglas T			MD PhD
P01	NS06346-06	01-01-70	12-31-72	20,039
	Support for Eastern Temporal Bone Banks Center			
	Johns Hopkins University			
0	Baltimore	Maryland		
	Bordley, John E			MD
P01	NS06347-06	01-01-70	12-31-71	13,369
	Western Temporal Bone Banks Center			
	University of California San Francisco			
0	San Francisco	California		
	Sooy, Francis A			MD
R01	NS06408-06	01-01-71	12-31-73	52,929
	Experimental Studies in Hereditary Deafness			
	Vanderbilt University			
2	Nashville	Tennessee		
	McConnell, Freeman E			PhD
P01	NS06459-06	02-01-66	01-31-73	225,339
	A Communication Sciences Research Program			
	University of Florida Gainesville			
1	Gainesville	Florida		
	Moore, Paul			PhD

Grant Number / Project Title	Project Period	Fiscal Year 1971 Award	No. of Future Years	Sponsoring Institution and Project Director
R01 NS06524-06 Auditory Responses	06-01-69 05-31-73	70,539	1	University of Miami Miami Florida Peterson, Ernest A PhD
R01 NS06527-06 Studies on Larynx and Pharynx Neurophysiology	06-01-68 05-31-73	33,895	1	University of California San Francisco San Francisco California Dedo, Herbert H MD
R01 NS06547-06 Information-Processing in the Auditory System	05-01-69 04-30-74	14,061	2	University of Pittsburgh Pittsburgh Pennsylvania Boudreau, James C PhD
R01 NS06563-05 Evaluation of Central & Peripheral Vestibular Mechanisms	09-01-66 08-31-72	50,351	0	Washington University Saint Louis Missouri Stroud, Malcolm H MD
R01 NS06575-05 Metabolic Processes of the Inner Ear	09-01-69 08-31-74	87,971	3	Washington University Saint Louis Missouri Thalmann, Ruediger MD
R01 NS06587-06 Studies of Brain Function in Auditory Behavior	06-01-69 05-31-73	45,757	1	Indiana University Bloomington Bloomington Indiana Wegener, Jonathan G PhD
P01 NS06593-06 Southern Temporal Bone Banks Research Center	01-01-70 12-31-71	17,922	0	Baylor College of Medicine Houston Texas Guilford, Frederick R MD

R01	NS06606-06	06-01-69	05-31-72	72,818		University of California Los Angeles	
	Human Temporal Bone Pathology				0	Los Angeles	California
						Gussen, Ruth	MD
R01	NS06658-06	06-01-69	05-31-72	40,319		University of California Los Angeles	
	Central Vestibular Mechanisms				0	Los Angeles	California
						Markham, Charles H	MD
R01	NS06673-06	01-01-69	12-31-71	23,956		Loyola University	
	Neuromechamisms				0	Maywood	Illinois
						Schmidt, Robert S	PhD
R01	NS06730-05	09-01-70	08-31-73	43,230		Northwestern University	
	Stimulus-Related DC Potentials of the Cochlea				2	Evanston	Illinois
						Dallos, Peter J	PhD
R01	NS06785-05	09-01-70	08-31-75	64,149		University of Iowa	
	Central Mechanisms in the Vestibular Apparatus				4	Iowa City	Iowa
						McCabe, Brian F	MD
R01	NS06796-05	09-01-69	08-31-72	28,018		Massachusetts Eye and Ear Infirmary	
	Methods for Correcting Dysfunctions of the Human Larynx				0	Boston	Massachusetts
						Montgomery, William W	MD
R01	NS06809-05	09-01-69	08-31-72	57,776		University of Chicago	
	Comparative Studies of the Vestibular System				1	Chicago	Illinois
						Hinojosa, Raul	MD
R01	NS06940-06	12-01-68	11-30-71	44,355		University of California	
	Masking Mechanisms				0	La Jolla	California
						Green, David M	PhD
R01	NS07005-04A1	06-01-71	05-31-74	49,742		Louisiana St Univ New Orleans	
	Auditory Function Following Temporal Lobectomy				2	New Orleans	Louisiana
						Berlin, Charles I	PhD

Grant Number / Project Title	Project Period	Fiscal Year 1971 Award	No. of Future Years	Sponsoring Institutiona and Project Director
R01 NS07007-05 Vestibular and Auditory Function of the Sacculus	01-01-70 02-29-72	18,479	0	University of Florida Gainesville Gainesville Florida Kohut, Robert I MD
R01 NS07212-05 Single Unit Analysis of the Superior Olivary Complex	05-01-71 04-30-74	34,822	2	University of Pittsburgh Pittsburgh Pennsylvania Tsuchitani, Chiyeko PhD
R01 NS07235-05 The Spatial Distribution of Vestibular Nerve Fibers	05-01-70 04-30-72	12,905	0	University of Colorado Denver Denver Colorado Sando, Isamu MD
R01 NS07237-05 Partial Ablation of Vestibular System and Equilibrium	05-01-70 04-30-73	35,270	1	Baylor College of Medicine Houston Texas Igarashi, Makoto MD
R01 NS07242-04 Application of Ultrasound in Speech Research	06-01-70 05-31-72	53,855	0	University of Wisconsin Madison Madison Wisconsin Kelsey, Charles A PhD
R01 NS07270-05 Loudness Summation Over Space, Time, and Frequency	06-01-71 05-31-73	79,902	0	Northeastern University Boston Massachusetts Scharf, Bertram PhD
R01 NS07287-03 Space-Time Patterns Evoked by Acoustic Complexes	10-01-69 09-30-74	45,089	3	University of Florida Gainesville Gainesville Florida Teas, Donald C PhD

R01	NS07304-05	04-01-70	03-31-73	28,576		University of Oregon Medical School	
	Hearing and Tinnitus				1	Portland	Oregon
						Vernon, Jack A	PhD
R01	NS07306-05	06-01-71	05-31-73	42,179		University of Michigan Ann Arbor	
	Histochemical and Silver Studies of the Inner Ear				0	Ann Arbor	Michigan
						Ross, Muriel D	PhD
R01	NS07352-04	06-01-71	05-31-73	32,177		University of Michigan Ann Arbor	
	Studies in Aural Distortion				0	Ann Arbor	Michigan
						Clack, Thomas D	PhD
R01	NS07482-04	05-01-71	04-30-74	33,147		University of California San Francisco	
	Studies in the Physiology of Phonation				2	San Francisco	California
						Shipp, Thomas	PhD
R01	NS07498-04	10-01-70	09-30-75	40,370		Washington University	
	Peripheral Auditory Mechanisms				4	Saint Louis	Missouri
						Pfeiffer, Russell R	PhD
P15	NS07514-04	09-01-70	08-31-73	128,241		Stanford University	
	Research Program of Aphasic Involvements in Children				2	Stanford	California
						Eisenson, Jon	PhD
R01	NS07554-04	09-01-69	04-30-72	21,464		Stanford University	
	Short-Term Auditory Storage				0	Stanford	California
						Schubert, Earl D	PhD
R01	NS07555-04	10-01-70	09-30-73	31,619		University of Iowa	
	Cinefluorographic Studies of Speech Articulation				2	Iowa City	Iowa
						Moll, Kenneth L	PhD
R01	NS07615-11	09-01-70	08-31-75	34,886		Clark University	
	New Measures of Aphasic Symptom Variables				4	Worcester	Massachusetts
						Goodglass, Harold	PhD

Grant Number / Project Title	Project Period	Fiscal Year 1971 Award	No. of Future Years	Sponsoring Institution and Project Director
R01 NS07616-10 Acoustic Perception and Echo-Orientation	01-01-69 12-31-71	30,345	0	Yale University New Haven Connecticut Novick, Alvin MD
R01 NS07623-05 Experimentally Induced Otitis Media	06-01-70 05-31-73	48,703	1	University of Minnesota Minneapolis Minneapolis Minnesota Paparella, Michael M MD
R01 NS07661-05 Central Neural Mechanisms of Hearing	01-01-68 12-31-72	44,831	1	University of California Irvine Irvine California Thompson, Richard F PhD
R01 NS07715-04 Recorded Body Sway in Evaluation of Equilibrium	04-01-71 03-31-73	25,888	1	Baylor College of Medicine Houston Texas Coats, Alfred C MS MD
R01 NS07720-04 The Structure and Projections of the Cochlear Nuclei	01-01-68 12-31-71	26,712	0	Boston University Boston Massachusetts Warr, William B PhD BA
R01 NS07787-04 Psychophysiological Studies of Binaural Interaction	01-01-71 12-31-73	43,042	2	University of California Berkeley Berkeley California Hafter, Ervin R PhD
P15 NS07790-04 Auditory Dysfunction—The Cochlea	01-01-71 12-31-75	95,485	4	University of Pittsburgh Pittsburgh Pennsylvania Bilger, Robert C PhD

P15	NS-07791-03	01-01-68	08-31-71	62,234	
	Outpatient Research Center for Sensorineural Deafness				
	Northwestern University				
0	Chicago		Illinois		
	Carhart, Raymond T				PhD
R01	NS07814-04	05-01-68	04-30-73	21,064	
	Computer Facility for Speech and Hearing Research				
	University of Iowa				
1	Iowa City		Iowa		
	Curtis, James F				PhD
R01	NS07860-04	09-01-68	08-31-73	22,202	
	Anatomical Studies of the Internal Ear				
	Pennsylvania State University				
2	Hershey		Pennsylvania		
	Baird, Irwin L				PhD
R01	NS07905-05	06-01-70	05-31-73	18,041	
	Middle Ear Substrate Muscle, Bone, and Joints				
	Northwestern University				
1	Chicago		Illinois		
	Blevins, Charles E				PhD
R01	NS07908-06	05-01-68	04-30-73	125,287	
	Noise-Induced Deafness–Masking and Speech Perception				
	Stanford Research Inst				
1	Menlo Park		California		
	Kryter, Karl D				PhD
R01	NS07925-02S1	05-01-69	12-31-71	30,626	
	Electrophysiology of Auditory Nervous Systems				
	Callier Hearing and Speech Center				
0	Dallas		Texas		
	Moushegian, George				PhD
R01	NS07974-04	05-01-68	04-30-73	39,735	
	Screening Test for Childhood Deafness				
	Stanford University				
1	Stanford		California		
	Simmons, F Blair				MD
R01	NS0800-04	04-01-71	03-31-76	42,223	
	Biochemistry of Prominent Structures of the Cochlea				
	Washington University				
4	Saint Louis		Missouri		
	Matschinsky, Franz M				MD
R01	NS08036-03	10-01-68	09-30-71	52,384	
	Physiological Parameters in Phonetic Theory				
	Speech Communications Res Lab				
0	Santa Barbara		California		
	Shoup, June E				PhD

Grant Number / Project Title	Project Period	Fiscal Year 1971 Award	No. of Future Years	Sponsoring Institution and Project Director
R01 NS08041-03 Studies of the Mechanisms of Speech Production	12-01-68 11-30-71	33,403	0	Johns Hopkins University Baltimore Maryland Heinz, John M ScD
R01 NS08149-03 Oval Window Membrane in Experimental Stapedectomy	12-01-68 11-30-71	25,441	0	University of Utah Salt Lake City Utah Thomas, Gary K MD
R01 NS08177-03 Acoustic Measures for Detecting Laryngeal Pathology	12-01-69 11-30-71	26,492	0	Speech Communications Res Lab Santa Barbara California Koike, Yasuo Y MD DSc
R01 NS08181-02 Auditory Thalamo-Cortical Projections	05-01-71 04-30-74	33,555	2	University of Washington Seattle Washington Miller, Josef M PhD
R01 NS08193-03 Experimental Studies on Cochlear Mechanisms	12-01-68 11-30-72	53,212	0	University of California Los Angeles Los Angeles California Honrubia, Vicente MD
R01 NS08194-03 Studies of the Ocular Countertorsion Reflex in Man	10-01-68 12-31-71	16,774	0	Los Angeles County Harbor General Hosp Torrance California Nelson, James R MD
R01 NS08196-03 Neuropathology of Sensorineural Deafness in Man	12-01-68 11-30-73	55,678	2	Johns Hopkins University Baltimore Maryland Konigsmark, Bruce W MD

R01	NS08209-03	10-01-68	04-30-72	30,605		Indiana University Bloomington	
	Directional Auditory Detection				0	Bloomington	Indiana
						Campbell, C Boyd	MD PhD
R01	NS08306-03	05-01-71	04-30-74	37,788		University of Massachusetts Amherst	
	Speech-Analyzing Aids for the Deaf				2	Amherst	Massachusetts
						Thomas, Ian B	PhD
R01	NS08335-04	05-01-69	04-30-72	46,847		University of California Los Angeles	
	Experimental Studies on Vestibular Mechanism				0	Los Angeles	California
						Ward, Paul H	MD
R01	NS08365-04	05-01-69	04-30-74	45,659		Yeshiva University	
	Embryology of the Inner Ear				2	New York	New York
						Ruben, Robert J	MD
R01	NS08400-02S1	05-01-69	12-31-71	1,062		University of Minnesota Minneapolis	
	Temporal Parameters of Speech Discrimination Loss				0	Minneapolis	Minnesota
						Speaks, Charles E	PhD
R01	NS08451-03	02-01-69	01-31-74	14,788		Massachusetts Eye and Ear Infirmary	
	Efferent Projections of the Vestibular Nuclei				2	Boston	Massachusetts
						Gacek, Richard R	MD
R01	NS08459-03	02-01-69	01-31-72	5,951		Vanderbilt University	
	Acoustic and Perceptual Analyses of Vocal Roughness				0	Nashville	Tennessee
						Coleman, Robert F	PhD
R01	NS08542-03	02-01-69	01-31-74	28,943		Baylor College of Medicine	
	Audiologic Correlates of Central Auditory Disorders				2	Houston	Texas
						Jerger, James F	PhD
R01	NS08544-03	10-01-68	09-30-71	32,653		Howard University	
	Perceptual Correlates of Distinctive Feature Rule				0	Washington	Dist of Col
						Singh, Sadanand	PhD

Grant Number / Project Title	Project Period	Fiscal Year 1971 Award	No. of Future Years	Sponsoring Institution and Project Director
R01 NS08569-03 Inner Ear Development and Cytodifferentiation	05-01-69 04-30-72	12,529	0	Northwestern University Chicago Illinois Orr, Mary F PhD
R01 NS08584-03 Development of Laryngeal and Tracheal Prostheses	09-01-69 08-31-72	27,694	1	University of Texas Med Br Galveston Galveston Texas Bailey, Byron J MD
R01 NS08589-02 Influence of the Efferent System on Auditory Function	05-01-71 04-30-72	25,303	0	Baylor College of Medicine Houston Texas Alford, Bobby R MD
R01 NS08612-02 The Neuropsychology of Auditory Perception	05-01-71 04-30-72	84,696	0	Callier Hearing and Speech Center Dallas Texas Gerken, George M PhD
R01 NS08641-03 Auditory Pathway Activity and Attention	05-01-69 04-30-72	21,309	0	Langley Porter Neuropsychiatric Inst San Francisco California Galin, David MD
R01 NS08635-02 Cochlear Distortion and the Role of CM in Hearing	01-01-70 12-31-72	36,156	1	Northwestern University Evanston Illinois Dallos, Peter J PhD
R01 NS08728-02 Neuromuscular Mechanisms of the Larynx	01-01-70 08-31-71	12,402	0	Northwestern University Chicago Illinois Hast, Malcolm H PhD

R01	NS08732-02	06-01-69	05-31-72	40,042		Andrews University	
	Communication During Behavior				0	Berrien Springs	Michigan
						Stout, John F	PhD
R01	NS08733-03	01-01-70	08-31-72	8,285		Northwestern University	
	Prenatal Development of the Larynx				0	Chicago	Illinois
						Hast, Malcolm H	PhD
R01	NS08754-02	10-01-69	09-30-72	36,204		University of Texas Austin	
	Psychophysics of Binaural Hearing				1	Austin	Texas
						McFadden, Dennis	PhD
R01	NS08810-02	10-01-69	09-30-72	26,759		Baylor College of Medicine	
	Pitch Discrimination in Sensori-Neural Hearing Loss				1	Houston	Texas
						Jerger, James F	PhD
R01	NS08811-02	10-01-69	09-30-72	46,496		Northwestern University	
	The Auditory Aberrations of Multiple Sclerosis				1	Chicago	Illinois
						Olsen, Wayne O	PhD
R01	NS08813-02	09-01-69	08-31-72	64,324		University of Oregon Medical School	
	Structure and Function of the Inner Ear				1	Portland	Oregon
						Smith, Catherine A	PhD
R01	NS08854-02	10-01-69	09-30-72	20,470		Ohio St University	
	Middle Ear Mucosa--Normal and Experimental				1	Columbus	Ohio
						Lim, David J	MD
R01	NS08860-02	01-01-70	12-31-72	18,792		Washington University	
	Effects of Cochlear Pathologies on Loudness Perception				1	Saint Louis	Missouri
						Carver, William F, 3D	PhD
R01	NS08878-02	10-01-69	09-30-72	8,965		University of Chicago	
	Electrophysiological Correlates of Auditory Space				1	Chicago	Illinois
						Butler, Robert A	PhD

Grant Number / Project Title	Project Period	Fiscal Year 1971 Award	No. of Future Years	Sponsoring Institution and Project Director
R01 NS08916-02 The Use of Collagen in Otorhinolaryngoplasty	10-01-69 04-30-71	10,301	0	University of Iowa Iowa City Iowa McCabe, Brian F MD
R01 NS08919-02 Voice Quality and Laryngeal Frequency	01-01-71 12-31-72	14,599	1	Syracuse University Syracuse New York Rothenberg, Martin PhD
R01 NS09027-02 Nonauditory Functions of Auditory Cortex	01-01-70 12-31-72	18,689	1	University of Pittsburgh Pittsburgh Pennsylvania Colavita, Francis B PhD
R01 NS09028-01A1 Histopathology of the Temporal Bones of Children	05-01-71 04-30-74	15,103	2	Presbyterian-University of Pa Med Ctr Philadelphia Pennsylvania Myers, Eugene N MD
R01 NS09029-02 Listener Characteristics in Auditory Detection	01-01-70 08-31-72	43,428	0	Stanford University Stanford California Schubert, Earl D PhD
R01 NS09032-02 Processes in the Cochlea and the Auditory Nerve	01-01-70 12-31-72	41,204	1	Princeton University Princeton New Jersey Wever, Ernest G PhD
R01 NS09059-02 Biochemistry of Inner Ear Fluids	01-01-70 12-31-71	18,194	0	Massachusetts Eye and Ear Infirmary Boston Massachusetts Silverstein, Herbert MD MSc

R01 NS09120-02 01-01-70 12-31-72 11,317
Correlative Postnatal Vestibular Development

1 Ohio St University
Columbus Ohio
Clark, David L PhD

R01 NS09219-01 09-01-70 08-31-73 35,917
Nonsurgical Recording of Human Cochlear Potentials

2 Baylor College of Medicine
Houston Texas
Coats, Alfred C MD

R01 NS09231-01 09-01-70 08-31-72 31,521
Study of the Macula Lagenae

1 University of California San Francisco
San Francisco California
Miller, Malcolm R PhD MD

R01 NS09242-01 09-01-70 08-31-72 11,579
Air Flow in Voice

1 Upstate Medical Center
Syracuse New York
Colton, Raymond H PhD

R01 NS09243-01 09-01-70 08-31-73 21,903
Intracellular Responses in Auditory Papilla

2 Massachusetts Eye and Ear Infirmary
Boston Massachusetts
Mulroy, Michael J PhD

R01 NS09244-01A1 05-01-71 04-30-74 49,928
Encoding of Vocal Signals in the Auditory System

2 Cornell University
Ithaca New York
Capranica, Robert R ScD

R01 NS09252-01 09-01-70 08-31-73 34,396
Analysis of Acoustic Characteristics of Deaf Speech

2 City University of New York
New York New York
Levitt, Harry PhD

R01 NS09262-02 05-01-70 04-30-72 9,008
Acoustic and Perceptual Studies of Esophageal Speech

0 Indiana University at Indianapolis
Indianapolis Indiana
Weinberg, Bernd PhD

R01 NS09278-01 09-01-70 08-31-73 26,894
Nature and Clinical Utility of Early AER Components

2 University of Wisconsin Madison
Madison Wisconsin
Goldstein, Robert PhD

Grant Number / Project Title	Project Period	Fiscal Year 1971 Award	No. of Future Years	Sponsoring Institution and Project Director
R01 NS09293-01 Histopathology of Temporal Bones	09-01-70 08-31-73	25,269	2	University of Colorado Denver Denver Colorado Hemenway, William G MD
R01 NS09355-02 Development of AER in Infants and Young Children	01-01-70 02-28-73	73,459	1	University of Wisconsin Madison Madison Wisconsin Goldstein, Robert PhD
R01 NS09374-01 Processing of Acoustic Information	09-01-70 08-31-73	26,103	2	University of Hawaii Honolulu Honolulu Hawaii Popper, Arthur N PhD
R01 NS09440-01 Ultrastructural Studies on Vestibular Neural Pathways	06-01-71 05-31-74	41,425	2	University of California Los Angeles Los Angeles California Dunn, Robert F Phd
R01 NS09442-01 Perceptual Masking in Normal and Impaired Hearers	09-01-70 08-31-75	36,093	4	Northwestern University Evanston Illinois Carhart, Raymond T PhD
R01 NS09551-01 Unit Correlates of Auditory Behavior	09-01-70 08-31-73	25,876	2	University of California Santa Barbara Santa Barbara California Clopton, Ben J PhD
R01 NS09577-05 Construction of a Laryngeal Analog	06-01-70 05-31-72	35,792	0	University of Cincinnati Cincinnati Ohio Shumrick, Donald A PhD

R01 NS09579-01 09-01-70 08-31-72 31,761
Ontogeny of Echolocation

1 Johns Hopkins University
Baltimore Maryland
Gould, Edwin PhD

R01 NS09590-01 09-01-70 08-31-73 21,721
Communication Skills in Deaf and Hearing Children

2 Bowling Green State University
Bowling Green Ohio
Hoemann, Harry W PhD

R01 NS09613-02 06-01-71 05-31-73 46,667
Study of Vestibular Pathways in the Cerebellum

0 University of Chicago
Chicago Illinois
Proctor, Leonard R MD

R01 NS09627-01 02-01-71 01-31-74 33,269
Physiological Bases of Dysarthria

2 University of Wisconsin Madison
Madison Wisconsin
Netsell, Ronald W PhD

R01 NS09628-01 02-01-71 01-31-73 24,139
New Approaches to Speech Instruction of Deaf Children

1 Johns Hopkins University
Baltimore Maryland
Seitz, Rachel E PhD

R01 NS09656-01 02-01-71 01-31-74 24,707
Speech Breathing Mechanics

2 University of Wisconsin Madison
Madison Wisconsin
Hixon, Thomas J PhD

R01 NS09663-06 01-01-71 12-31-73 43,511
Factors Affecting Temporal Auditory Summation

2 Upstate Medical Center
Syracuse New York
Wright, Herbert N PhD

R01 NS09692-01 02-01-71 01-31-74 26,871
Study of the Semicircular Canal Afferent Responses

2 University of California Los Angeles
Los Angeles California
O'Leary, Dennis P PhD

R01 NS09713-01 06-01-71 05-31-73 47,162
Loudness, Discrimination & Amplification Relationships

0 University of California Los Angeles
Los Angeles California
Dirks, Donald D PhD

Grant Number / Project Title	Project Period	Fiscal Year 1971 Award	No. of Future Years	Sponsoring Institution and Project Director
R01 NS09749-01 Comparative Anatomy of the Auditory System	12-01-70 04-30-72	11,963	0	Louisiana St Univ New Orleans New Orleans Louisiana Alamo, Norma J PhD
R01 NS09767-01 Central Integration of Speech Alternated Between Ears	05-01-71 04-30-72	11,716	0	Brandeis University Waltham Massachusetts Wingfield, Arthur DPHIL
R01 NS09776-01 Effects of Unilateral Labyrinthectomy in Man	09-01-70 12-31-71	15,507	0	University of California La Jolla California Nelson, James R. MD
R01 NS09780-01 Models of Linguistic Performance	06-01-71 05-31-74	85,163	2	University of California Los Angeles Los Angeles California Ladefoged, Peter N PhD
R01 NS09798-01 Biochemical Aberrations in Otosclerosis	10-01-70 01-31-72	24,125	0	University of Southern California Los Angeles California Endahl, Gerald L PhD
R01 NS09811-01 The Acquisition of Sign Language and Its Structure	05-01-71 04-30-74	84,561	2	Salk Inst for Biological Studies La Jolla California Bellugi-Klima, Ursula EdD
P15 NS09823-01 Vestibular Mechanisms in Humans	05-01-71 04-30-74	99,567	2	University of California Los Angeles Los Angeles California Ward, Paul H MD

R01 NS09827-01 06-01-71 05-31-72 8,353
Effects of Behavior Modifying Drugs on EEG Audiometry

0 University of Washington
Seattle Washington
Weber, Bruce A PhD

P01 NS09889-01 05-01-71 04-30-74 109,452
Investigation of Agents Which Damage the Ear

2 University of Oregon Medical School
Portland Oregon
Vernon, Jack A PhD

R01 NS09935-01 12-01-70 11-30-71 41,829
A Quantitative Study of the Human Auditory Pathways

0 University of Denver
Denver Colorado
Minckler, Jeff PhD MD

NATIONAL INSTITUTE OF NEUROLOGICAL DISEASES AND STROKE

TRAINING PROGRAMS IN THE COMMUNICATIVE SCIENCES

DATE OF REPORT 03-28-72

Grant Number	Program Director and Institution		Type of Training Program Starting Date	No. of Trainees	Amount of Grant	Final Report*
NS05116-15	McCabe, Brian F University of Iowa Iowa City Iowa	MD	Otolaryngology 07-01-57	18	87,188	X
NS05121-15	Naunton, Ralph F University of Chicago Chicago Illinois	MD	Otolaryngology 07-01-57	5	98,498	X
NS05129-15	Nager, George T Johns Hopkins University Baltimore Maryland	MD	Otolaryngology 07-01-57	11	88,359	X
NS05137-15	Nichols, Richard D Henry Ford Hospital Detroit Michigan	MD	Otolaryngology 07-01-57	7	3,270	X
NS05143-15	Schuknecht, Harold F Massachusetts Eye and Ear Infirmary Boston Massachusetts	MD	Otolaryngology 07-01-57	1	63,765	X
NS05144-14	Daly, John F New York University New York New York	MD	Otolaryngology 07-01-58	2	15,347	X

*X = final report completed.

NS05190-13	Ogura, Joseph H Washington University Saint Louis Missouri	MD	Otolaryngology 07-01-58	21	70,497	X
NS05199-14	Harrill, James A Bowman Gray School of Medicine Winston-Salem North Carolina	MD	Otolaryngology & Audiology 07-01-58	3	70,160	X
NS05203-11	Goldman, Joseph L Mount Sinai School of Medicine New York New York	MD	Otolaryngology 07-01-61	11	71,392	X
NS05208-14	Blanchard, Cyrus L University of Maryland Baltimore Maryland	MD	Otolaryngology 07-01-58	1	46,535	X
NS05213-14	Kirchner, John A Yale University New Haven Connecticut	MD	Otolaryngology 07-01-58	7	60,376	X
NS05229-10	Andrews, Albert H, Jr University of Illinois Medical Center Chicago Illinois	MD	Otolaryngology 07-01-62	5	101,616	X
NS05230-12	Work, Walter P University of Michigan Ann Arbor Michigan	MD	Otolaryngology 07-01-59	10	54,892	X
NS05234-13	Baker, Daniel C, Jr Columbia University New York New York	MD	Otolaryngology 07-01-59	2	34,002	X

Grant Number	Program Director and Institution		Type of Training Program Starting Date	No. of Trainees	Amount of Grant	Final Report
NS05248-12	Sooy, Francis A University of California San Francisco San Francisco California	MD	Otolaryngology 07-01-60	2	74,393	X
NS05258-13	Beidler, Lloyd M Florida State University Tallahassee Florida	PhD	Sensory Physiology 07-01-59	2	52,197	X
NS05276-10	Reed, George F Upstate Medical Center Syracuse New York	MD	Otolaryngology 07-01-62	3	83,449	X
NS05286-13	Hardy, William G Johns Hopkins University Baltimore Maryland	PhD	Audiology 07-01-59	Not Reported	16,860	X
NS05287-12	Fischer, Newton D University of North Carolina Chapel Hill Chapel Hill North Carolina	MD	Otolaryngology 07-01-59	3	60,883	X
NS05291-11	Leonard, James R Thomas Jefferson University Philadelphia Pennsylvania	MD	Otolaryngology 07-01-59	7	31,986	X
NS05295-12	Ward, Paul H University of California Los Angeles Los Angeles California	MD	Otolaryngology 07-01-60	5	89,802	X

NS05308-12	Wever, Ernest G Princeton University Princeton New Jersey	PhD	Sensory Physiology 07-01-60	1	29,360	X
NS05315-11	Fitz-Hugh, G Slaughter University of Virginia Charlottesville Virginia	MD	Otolaryngology 07-01-61	2	13,971	X
NS05329-11	Carhart, Raymond T Northwestern University Evanston Illinois	PhD	Audiology Training Program 07-01-61	10	91,003	X
NS05344-11	Silverman, S Richard Central Institute for the Deaf Saint Louis Missouri	PhD	Medical Audiology 07-01-61	1	25,372	X
NS05349-11	Paparella, Michael M University of Minnesota Minneapolis Minneapolis Minnesota	MD	Otolaryngology 07-01-61	5	86,936	X
NS05358-11	Hudson, William R Duke University Durham North Carolina	MD	Otolaryngology 07-01-61	3	28,570	X
NS05362-10	Girardeau, Frederic L University of Kansas Lawrence Kansas	PhD	Communication Disorders 07-01-62	4	42,716	X
NS05384-10	Tabb, Harold G Tulane University New Orleans Louisiana	MD	Otolaryngology 07-01-62	5	145,492	X

Grant Number	Program Director and Institution		Type of Training Program Starting Date	No. of Trainees	Amount of Grant	Final Report
NS05385-10	Singleton, George T University of Florida Gainesville Florida	MD	Otolaryngology 07-01-62	4	32,785	X
NS05397-09	Saunders, William H Ohio State University Columbus Ohio	MD	Otolaryngology and Audiology 07-01-63	9	82,069	X
NS05418-08	Snow, James B, Jr University of Oklahoma Medical Center Oklahoma City Oklahoma	MD	Otolaryngology 07-01-65	8	64,114	X
NS05419-08	Schubert, Earl D Stanford University Stanford California	PhD	Audiology 07-01-64	6	50,772	X
NS05420-09	Canter, Gerald J Northwestern University Evanston Illinois	PhD	Speech Pathology 07-01-63	9	66,865	X
NS05425-09	Moll, Kenneth L University of Iowa Iowa City Iowa	PhD	Speech Pathology and Audiology 07-01-63	12	116,348	X
NS05435-09	Alford, Bobby R Baylor College of Medicine Houston Texas	MD	Otolaryngology 07-01-63	4	59,470	X

NS05437-09	Ptacek, Paul H Case Western Reserve University Cleveland Ohio	PhD	Speech Pathology and Audiology 07-01-63	7	76,768	X
NS05439-09	Turner, John S Emory University Atlanta Georgia	MD	Otolaryngology 07-01-63	3	46,245	X
NS05446-08	Darley, Frederic L Mayo Foundation Rochester Minnesota	PhD	Speech Pathology 07-01-64	2	25,747	X
NS05467-07	Beekhuis, G Jan Wayne State University Detroit Michigan	MD	Otolaryngology 07-01-64	3	50,352	X
NS05472-07	De Weese, David D University of Oregon Medical School Portland Oregon	MD	Otolaryngology 07-01-64	4	76,491	X
NS05475-07	Moore, Paul University of Florida Gainesville Florida	PhD	Communicative Disorders 07-01-64	8	69,003	X
NS05476-07	Senturia, Ben H American Academy of Ophth and Otolar Rochester Minnesota	MD	Otolaryngic Pathology 07-01-64	9	60,667	X
NS05479-06A1	O'Neill, John J University of Illinois Urbana Urbana Illinois	PhD	Speech Pathology and Audiology 07-01-65	6	43,257	X

Grant Number	Program Director and Institution		Type of Training Program Starting Date	No. of Trainees	Amount of Grant	Final Report
NS05487-07	Proud, G O'Neil University of Kansas Kansas City Kansas	MD	Otolaryngology 07-01-65	2	81,712	X
NS05499-05	Hayes, Claude S University of Wisconsin Madison Madison Wisconsin	PhD	Audiology 07-01-66	6	90,503	X
NS05504-06	Hemenway, William G University of Colorado Denver Colorado	MD	Otolaryngology 07-01-66	8	38,105	X
NS05507-05	Cherry, Jerrie Vanderbilt University Nashville Tennessee	MD	Otolaryngology 07-01-66	6	43,048	X
NS05531-05	Trail, Mervin Louisiana St Univ New Orleans New Orleans Louisiana	MD	Otolaryngology 07-01-66	3	57,651	X
NS05535-06	Dickinson, John T Mercy Hospital of Pittsburgh Pittsburgh Pennsylvania	MD	Otolaryngology 07-01-66	1	12,725	X
NS05548-06	Goffin, Floyd B Albany Medical College Albany New York	MD	Otolaryngology 07-01-66	2	41,711	X

NS05553-06	Donaldson, James A University of Washington Seattle Washington	MD	Otolaryngology 07-01-66	9	79,086	X
NS05556-06	Arnold, Godfrey E University of Mississippi Jackson Mississippi	MD	Otolaryngology 07-01-66	7	73,865	X
NS05582-06	Simmons, F Blair Stanford University Stanford California	MD	Otolaryngology 07-01-66	2	39,332	X
NS05587-04A1	Gross, Charles W University of Tennessee Memphis Memphis Tennessee	MD	Otolaryngology 07-01-67	5	53,416	X
NS05597-03	Shumrick, Donald A University of Cincinnati Cincinnati Ohio	MD	Otorhinolaryngology 07-01-69	3	49,672	X
NS05600-04	Gunter, Jack P Univ of Texas Southwestern Medical Sch Dallas Texas	MD BA	Otolaryngology 07-01-68	9	38,801	X
NS05617-04	Sisson, George A Northwestern University Chicago Illinois	MD	Communicative Disorders 07-01-68	1	88,347	X
NS05620-04	Sprinkle, Philip M West Virginia University Morgantown West Virginia	MD	Communication Disorders 07-01-68	7	64,846	X

Grant Number	Program Director and Institution	Type of Training	Program Starting Date	No. of Trainees	Amount of Grant	Final Report
NS05638-03	Thomas, Gary K University of Utah Salt Lake City Utah	MD	Otolaryngology 07-01-69	3	31,225	X
NS05668-03	Moulton, David G University of Pennsylvania Philadelphia Pennsylvania	PhD	Sensory Physiology 07-01-69	5	28,896	X
NS05672-01	Bailey, Byron J University of Texas Med Br Galveston Galveston Texas	MD	Otolaryngology 07-01-71	5	26,555	X
NS05679-01	Hawkins, Joseph E, Jr University of Michigan Ann Arbor Ann Arbor Michigan	PhD	Physiological Acoustics 07-01-71	1	41,496	X
NS05702-01A1	Ruben, Robert J Yeshiva University New York New York	MD	Otorhinolaryngology 07-01-71	1	44,283	X
NS10020-08	Uhde, George I University of Louisville Louisville Kentucky	MD	Otolaryngology 07-01-63	Not Reported	15,343	X
NS10070-03	Yarington, Charles T, Jr University of Nebraska College of Med Omaha Nebraska	MD	Otolaryngology 07-01-69	Not Reported	33,761	X

NATIONAL CENTER FOR HEALTH STATISTICS

U.S. Department of Health, Education and Welfare, Public Health Service, Health Services and Mental Health Administration.

The National Center for Health Statistics was established in 1960 as a fact finding agency. It is a branch of the Health Services and Mental Health Administration of the Department of Health, Education and Welfare, charged with collecting, analyzing and disseminating essential statistical data on the health, disability and medical care status of the United States. In carrying out its mission for the collection and dissemination of health data, the National Center for Health Statistics has published a number of reports dealing with impaired hearing and deafness.

The following publications, of the National Center for Health Statistics, of interest to professionals who offer services to deaf people, are available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

Characteristics of Persons With Impaired Hearing, United States, July 1962 – June 1963, Vital and Health Statistics, Series 10, Number 35, U.S. Government Printing Office – Price $.45

Prevalence of Selected Impairments, United States, July 1963 – June 1965, Vital and Health Statistics, Series 10, Number 48, U.S. Government Printing Office – Price $.75

Chronic Conditions Causing Activity Limitation, United States, July 1963 – June 1965, Vital and Health Statistics, Series 10, Number 51, U.S. Government Printing Office – Price $.50

Chronic Conditions and Limitations of Activity and Mobility, United States, July 1965 – June 1967, Vital and Health Statistics, Series 10, Number 61, U.S. Government Printing Office – Price $.65

Hearing Levels of Adults by Age and Sex, United States, 1960 – 1962, Vital and Health Statistics, Series 11, Number 11, U.S. Government Printing Office – Price $.30

Hearing Levels of Adults by Race, Region, and Area of Residence, United States, 1960 – 1962, Vital and Health Statistics, Series 11, Number 26, U.S. Government Printing Office (No price indicated.)

Hearing Levels of Adults by Education, Income, and Occupation, United States, 1960 – 1962, Vital and Health Statistics, Series 11, Number 31, U.S. Government Printing Office – Price $.35

Hearing Status and Ear Examination Findings Among Adults, United States, 1960 – 1962, Vital and Health Statistics, Series 11, Number 32, U.S. Government Printing Office – Price $.35

Hearing Levels of Children by Age and Sex, United States, Vital and Health Statistics, Series 11, Number 102, U.S. Government Printing Office – Price $.55

Hearing Levels of Children by Demographic and Socioeconomic Characteristics, United States, Vital and Health Statistics, Series 11, Number 111, U.S. Government Printing Office – Price $.50

Hearing Sensitivity and Related Medical Findings Among Children, United States, Vital and Health Statistics, Series 11, Number 114, U.S. Government Printing Office – Price $.70

PART III

OTHER GRANT ACTIVITIES IN THE AREA OF DEAFNESS

THE DEAFNESS RESEARCH FOUNDATION

RESEARCH GRANTS AWARDED 1971 – $284,335*

Basic and Applied Research

The Endolymphatic Sac and its Role in Inner Ear Fluid Dynamics and Pathophysiology
Altered pathophysiology of the endolymphatic sac has been regarded as the cause of Meniere's Disease and this research hopes to clarify this concept.

Round Window Ultra Sound Irradiation
Ultra sound has been used in the investigation that is designed to learn what really are the destructive effects of this modality of treatment on the area treated.

Autoradiographic Study of Inner Ear Fluids
The actual passage of fluids in the inner ear using these special autoradiographic techniques is being demonstrated; will help clarify the inner ear fluid dynamics.

The Distribution of NA^{22} and K^{42} in Tissue and Fluid Spaces of the Cochlea Related to the Time of Injection of these Isotopes
The difficulties of satisfactory tissue preparation pose great problems which are being overcome in maintaining ions in their normal location. When we learn more of inner ear fluid dynamics, the method of development of many inner ear diseases hopefully may be clarified.

Microbiology of Serous Otitis Media
To study serous otitis media fluids for variant bacteria, fungi, mycoplasma and viruses, as well as the bacterial flora of the mouth and nasopharynx, together with immunologic studies of ear fluids, saliva and serum in these cases.

The Etiology of Sero-Mucinous Otitis Media
A study to cast light on the validity of the current methods of treatment of this condition, causing hearing loss in children as well as in adults.

Etiologic Factors in Serous Otitis Media
There is great need for independent investigations on the function of the Eustachian tube. This project will study the significance of the lymphatics in this area in relation to function or malfunction.

Effects of Eustachian Tube Ligation
An independent, somewhat different approach to establish data on Eustachian tube function with its effect on hearing; one aspect of this investigation is to note the effect of tubal closure on middle ear mucosa with possible development of early cholesteatoma.

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*Further detail with respect to individual grants may be obtained from the Deafness Research Foundation, 366 Madison Ave., New York, N.Y. 10017.

Artificial Eustachian Tube Mastoid–Antrum Maxillary Sinus Shunt
This provocative experiment hopefully will shed some light on several old clinical concepts as to the value of aeration of the middle ear and mastoid air spaces on hearing.

Use of Tissue Adhesive and Topical Steroids in Experimental Tympanoplasty
This should provide experimental data on the wisdom of employing these substances in tympanoplastic operations to improve hearing in conductive deafness secondary to infection.

Experimental Investigation of Incudostapedial and Incudomalleolar Joint Regeneration Following Disarticulation and Repositioning
It aims to show the extent of arthrofibrous and other reparative changes which may occur following experiment trauma, degree to which it occurs and its ultimate effect on hearing.

Virus Localization in the Inner Ear
This research, being done on rabbits, may clarify the mechanism of several virally caused sensori-neural hearing losses, and also on sudden deafness.

Experimental Infection of the Ear
Using experimental animals, the fate of infected epithelial cells and their mode of regeneration, squamous metaplasia from mucosal epithelial cells, as well as bone resorption, all will be studied utilizing electron microscopy and improved tissue preparation techniques.

The Origin of Collagenase in Middle Ear Cholesteatoma
To elucidate the role collagenase plays in bone resorption in middle ear cholesteatoma: this study is concerned with the manner in which a mature cholesteatoma develops.

Non Surgical Recording of Human Cochlear Potentials
The investigator seeks a valid test to measure various abnormalities in hearing where standard audiometric tests are not possible of accomplishment.

Localization of the Slow Auditory Evoked Response-Vertex Potential
By lesioning experimentally in animals, these investigators will try to determine the source or sources of the slow, auditory evoked response.

The Effect of Intensity on the Averaged Electro-Encephalic Response During Sleep
The study is designed to develop a satisfactory, practical, clinical audiometric technique that can be used in sleeping patients, in those instances in which the averaged evoked response (AER) cannot be obtained in any other way.

Relationship Between Upper Respiratory Tract Immunoglobulin Secretions and Chronic Otitis Media
Computer analysis of data thus far failed to reveal significant changes in immunoglobulin levels in the cases of otitis media when contrasted with the normal. Further immunoglobulin studies on Indian children prone to repeated ear infections are being carried out.

Noise and Hearing

Sonic Boom Effects on the Cochlea
On guinea pig cochleas, the effect of a synthetic sonic boom on the cochlea under

controlled conditions needs elucidating. Much has been said of the deleterious effect of the sonic boom, but too little data to substantiate this are on hand.

Temporary Threshold Shifts Following Exposure to Intermittent Noise with Short Bursts
The investigation should provide information in estimating the potential risk to environmental workers like riveters whose environment can be described as one with repeated short bursts with sudden increase in intensity, but the bursts of noise are of such length that they cannot be regarded as "impulsive."

Genetic Deafness

The Study of the Pathologic Changes Underlying Congenital Deafness
Excellent controlled study of fetal and congenital deafness with long term follow-up—one of DRF's most rewarding in-depth studies on this important form of deafness.

Organ Culture of the Inner Ear
An organ culture system has been successfully developed. A number of identifiable structures which can be seen in differentiation in various stages have been pointed out.

Development of the Inner Ear
This program parallels, in some respect, the above program in utilizing electron microscopy to note if the ultra structural features are developing in a manner which would confirm that the organ culture specimen is a reliable model.

Otosclerosis

Sensori-neural Hearing Loss and Cochlear Otosclerosis
Several instances of otosclerosis with sensori-neural hearing loss have been found, in which a vascular shunt could be demonstrated between the otosclerotic focus and the vessel in the scala media of the cochlea.

Studies of the Cochlea

Study of the Cochlear Innervation with the Golgi Method
This technique should make possible the study, selectively, of a single neuron with its fiber processes in their entirety and minimize the need for sectioning and reconstruction with all the attendant difficulties of following a single nerve cell and its fibers. The work will be done on cats.

Scanning Electron Microscopic Investigation of the Inner Ear
New techniques have been developed for freeze drying, and this has been very productive, enabling one now to obtain beautiful sections, minus previous artifacts, which made interpretations of findings so difficult and at times misleading.

Development of an Animal Model for Presbycusis
Several different types of presbycusis have been outlined and the project aims to carry out a long-term follow-up on rats, to learn what the effect of cholesterol levels, toxic agents, and the process of aging are on the auditory function.

Doppler Shift Measurements for a Mathematical Model of Cochlear Mechanics
This is a cross-disciplinary approach to develop a mathematical model which will describe the detailed motion of the basilar membrane and its relation to the neural activity of the spiral ganglion.

Experimental Cortical Lesions and Auditory Function (Behavioral Conditioning and Morphological Study)
A new highly technical investigative approach to audition, to determine whether there is a dominant and specific auditory integration area in the cat cerebral cortex.

Neurophysiology of the Inner Ear and its Central Connections

Functional Organization of Afferent Cochlear Projections in Primates
By using sound produced restricted lesions of the cochlea, it is expected that the basic organization of cochlear projections in non-human primates will be completed.

Electron Microscopic Studies on the Topographic Synaptology of the Hair Cells of Vestibular Organs
This three dimensional analysis of hair cells of the ampullae, resulted in a thorough elucidation of the synaptic sphere. They have pointed out contradictions in the work of others, with respect to failure of vesiculated nerve endings to degenerate after 8th nerve section.

Studies of Degeneration and Regeneration of the 8th Cranial Nerve in Primates
This well-planned neuropathologic project should reveal much needed basic information—however, its clinical application will require a long term study.

Electron Microscopic Studies and Cytochemistry of the Organ of Corti and the Central Auditory Pathways
The investigators, using newly developed techniques have demonstrated, qualitatively and quantitatively, the neurotransmitters acetylcholinesterase, etc., in the neurotubules and at synaptic organelles.

Serial Section Ultrastructural Study of the Development of the Inner Ear of the Tadpole
Using three dimensional analysis, the development of the inner ear will be studied and it perhaps may shed light on the deafness that is developmental (congenital) in origin.

RESEARCH GRANTS AWARDED 1972 – $301,000

Basic and Applied Research

Experimental Production of Inner Ear Damage by Immunological Methods
Very few documented experiments on auto-immune disease of the cochlea have been reported up until this time. By injecting guinea pig cochleas with emulsions of either Freund's adjuvant or pertussin vaccine or both, it is hoped to induce pathological disturbances in the inner ear. The histologic changes will be studied and the immunological effects measured.

Virus Localization in the Inner Ear
The goal of this research project is to clarify, experimentally, the mechanism of virally caused sensori-neural hearing loss and sudden deafness.

The Effect of Intensity on the Averaged Electro-Encephalic Response During Sleep
A study that seeks to develop a practical clinical audiometric technique that can be used

in sleeping patients when the averaged evoked response cannot be obtained in any other way.

Non-Surgical Recording of Human Cochlear Potentials
A highly technical study in which the investigator is seeking to establish a reliable test capable of measuring various abnormalities in hearing in cases where conventional audiometric tests cannot be carried out.

Localization of the Slow Auditory Evoked Response-Vertex Potential
By making lesions in experimental animals these investigators are trying to determine the source, or sources, of the slow, auditory evoked response.

Effects of Eustachian Tube Ligation
A different approach to obtain data on Eustachian tube function with its effect on hearing. This investigation will also note the effect of tubal closure on middle ear mucosa to learn if it is a factor in the development of cholesteatoma.

Microbiology of Serous Otitis Media
A continuing study that is concerned with serous otitis media fluids for variant bacteria, fungi, mycoplasma and viruses, as well as the bacterial flora of the mouth and nasopharynx. Immunologic studies of these ear fluids, saliva and serum are also being carried out.

Pathophysiologic Responses to Keratinizing Tissues
The histologic, histochemical and immunological responses to keratin, the major component of cholesteatoma, are being studied to determine what role keratin plays in cholesteatoma pathophysiology.

Experimental Infection of the Ear
An investigation utilizing electron microscopy and improved tissue preparation is probing the fate of infected epithelial cells and their mode of regeneration, squamous metaplasia from mucosal epithelial cells, as well as bone resorption.

Anatomical Factors Causing Air Diffusion Disturbances within the Temporal Bone
The goal of this research project is to determine how anatomical factors involved in air diffusion disturbances within the temporal bone pneumatic system might contribute to the pathogenesis of cholesteatoma and middle-ear effusions.

The Origin of Collagenase in Middle-Ear Cholesteatoma
An on-going research project that is studying the role collagenase may play in bone resorption in middle-ear cholesteatoma, and the manner in which cholesteatoma develops.

Ultramicroscopic Changes in Inner-Ear Myxedema
To determine the nature of myxedema deafness, guinea pigs are being rendered myxedematous under controlled conditions. The inner ears are then studied with electromicroscopy.

Mechanical Parameters of Hearing by Bone Conduction
A study that incorporates a means of measuring mechanical force acceleration and the phase angle between them into a high intensity bone conduction apparatus, in order to measure the mechanical energy entering the skull. This will be compared with the loudness sensation level in normal subjects.

The Endolymphatic Sac and its Role in Inner Ear Fluid Dynamics and Pathophysiology
A continuing research project that hopes to furnish new data on the nature of Meniere's Disease and the mechanism of its development.

Cochlea: Studies of

Study of the Cochlear Innervation with the Golgi Method
An investigation providing data that indicate it is possible to study, selectively, a single neuron with its fiber processes, thus minimizing the need for sectioning and reconstruction with all the attendant difficulties of following a single nerve cell and its fibers.

Scanning Electron Microscopic Investigation of the Inner Ear
New techniques have been developed for freeze drying temporal bones, and these have made it possible to obtain sections minus artifacts. With the scanning microscope and three-dimensional microscopy, the investigators of this project are now able to study the inner ear in a fashion never before possible.

Development of a Animal Model for Presbycusis
This research on presbycusis continues a long-term follow-up on rats, to learn specifically what effect induced high cholesterol levels, toxic agents and aging have on the auditory function.

Doppler Shift Measurements for a Mathematical Model of Cochlear Mechanics
An on-going study that continues to work on perfecting a mathematical model that will describe the detailed motion of the basilar membrane and its relation to the neural activity of the spiral ganglion.

Genetic Deafness

Organ Culture of the Inner Ear
This project is investigating the effects of toxic agents in order to determine how they influence the normal development of the inner ear.

Ultrastructure of the Cochlear Nuclei
Normative morphology is being used to establish standards in normal cytology. With these findings as a reference base, attempts will be made to produce experimental kernicterus. If this can be done successfully, the sections will then be studied with ultramicroscopic techniques.

Neurophysiology of the Inner Ear and its Central Connections

Electron Microscopic Studies on the Topographic Synaptology of the Hair Cells of Vestibular Organs
An on-going project, a three-dimensional analysis of hair cells of the ampullae, which is resulting in a thorough elucidation of the synaptic sphere. Thus far this work has revealed contradictions in published reports on vesiculated nerve endings after eighth nerve section.

Serial Section Ultrastructural Study of the Development of the Inner Ear of the Tadpole
A continuing analysis of the development of the inner ear. Progress is being made that could shed light on the forms of deafness that are developmental in origin.

Experimental Cortical Lesions and Auditory Function (Behavioral Conditioning and Morphological Study)
Now in its second year, the highly technical investigative approach used in this project continues to make steady progress. The aim of the investigator is to determine whether or not there is a dominant and specific auditory integrative area in the cerebral cortex of a cat.

Studies of Degeneration and Regeneration of the Eighth Cranial Nerve in Primates
A well-planned neuro-pathologic project that is revealing basic information. The clinical application of these experiments will require a long-term follow-up study to determine their effectiveness.

Studies of Excitation of Mechanisms in Hair Cell Systems
The investigator of this research is studying the nature of spontaneous and physiologically-evoked neural activity in hair cell systems to determine whether such evoked responses as cochlear microphonics are necessary steps in the excitation process, or whether they are epiphenomena.

Determination of Temperature Effects Upon the Electrical Activity of the Cochlea
The goal of this study is to learn if the magnitude of the electrical output of the ear is affected by changes in temperature, either of the whole body or of the inner ear. Body temperatures will be held constant while intracochlear temperature is varied systematically. Conversely, cochlear temperature will be held constant while body temperature is varied. Preliminary findings indicate that previously reported data may be erroneous.

Nerve Deafness

Implantable Electromagnetic Hearing Aid
An electromagnetic audio frequency transmitter is being implanted, in monkeys, onto the head of the stapes. This transmitter is driven by an external driver system to permit higher gain factors, less distortion and elimination of acoustical feedback. The task of increasing the sensitivity of such a device and rendering the implant acceptable to tissue remains.

Feasibility of a Functional Artificial Ear: Electrical Stimulation of Human Auditory Cortex
In this search to determine the effectiveness of an auditory prosthesis to bypass the end-organ, human brain stimulation experiments are being conducted on volunteers undergoing neurosurgical exploration for tumors in the region of the auditory areas. This will be done under local anesthesia, making it possible for the patient to report on the subjective sensation elicited by stimulation.

Development of an Electrical Prosthesis for Sensorineural Hearing Loss
The problem inherent in the development of a prosthesis to electrically stimulate the auditory system is being studied in animals. One of the sub-problems involved is the development of a chronic non-traumatic intracochlear electrode, and the most efficient placement of this electrode within the cochlea.

Ototoxicity of Diuretics
This study is using cats to determine the histopathological changes in the auditory system after the administration of new potent diuretics now in use clinically.

Ototoxic Effects on the Vestibuloocular Reflex: An Anatomical and Physiological Study
The stimulus response method being used in this research gives promise of indicating the lowest level that a so-called ototoxic drug begins to impair auditory function. Findings of this could have important clinical application.

Ototoxicity of Aminooxyacetic Acid
An investigation that seeks to elucidate how aminooxyacetic acid produces ototoxicity by abolishing the d.c. cochlear potential in the scala media, and to show if the effect is independent of changes in blood pressure and route of administration. The effect of aminooxyacetic acid on the d.c. potential in the organ of Corti will also be studied.

Noise and Hearing

Sonic Boom Effects on the Cochlea
The effect of a synthetic sonic boom on guinea pig cochleas is being studied in this continuing research. Much has been said of the deleterious effect of the sonic boom, but little is known as to the actual damage to the inner ear.

Otosclerosis

Sensori-neural Hearing Loss and Cochlear Otosclerosis
Otosclerosis with sensori-neural hearing loss is being studied in this research to determine if, in certain instances, a vascular shunt can be demonstrated between the otosclerotic focus and the vessel in the scala media of the cochlea.

ARMY AUDIOLOGY AND SPEECH CENTER
WALTER REED ARMY MEDICAL CENTER

Director: Phillip W. Meyers, M.D., Major, M.C.
Assistant Director: Don W. Worthington, Ph.D., Captain, MSC

The Army Audiology and Speech Center is a diagnostic and treatment center for active duty and retired military personnel, and for dependents of military personnel. It is located at the Forest Glen Annex of Walter Reed Army Medical Center. The Center is equipped to identify, diagnose, and treat problems of hearing and speech, and to rehabilitate individuals with these disorders. The staff includes an otolaryngologist, audiologists, speech pathologists and other skilled paramedical personnel.

The Audiology Department has a Hearing Evaluation Section which has the most modern equipment for evaluation of cochlear and vestibular disorders. The Hearing Evaluation Section is equipped for routine hearing evaluation, speech audiometry, evaluation of nonorganic hearing problems, special diagnostic evaluation (peripheral end organ, retrocochlear, central auditory pathways), diagnostic evaluation of conductive hearing loss (acoustic impedance measurements) and for the evaluation of small children and infants (sound field, conditioned audiometric techniques, electrophysiological methods). Hearing aid selection is also done, which includes hearing aid evaluation, issuance, and maintenance for active duty and retired military personnel. Additional facilities include an ear mold laboratory and a hearing aid repair section.

Electronystagmography (ENG) is used in the differential evaluation of suspected vestibular pathology.

The Aural Rehabilitation Section of the Center has a two-week instruction program for its hearing impaired military personnel. The program emphasizes four aspects:

1. Understanding your hearing loss and hearing aid
2. Speechreading
3. Auditory training
4. Hearing conservation

The Speech Section works in conjunction with the Aural Rehabilitation Section. It treats a wide variety of speech and communication problems. Included are those associated with traumatic injury, brain damage, voice disorders, stuttering and the laryngectomy patient (esophageal speech).

Research is conducted in such areas as hearing conservation, retrocochlear pathology, effects of noise exposure on hearing loss, conductive hearing loss evaluation and the vestibular system.

All new military audiologists come to the Center for a two-week orientation program, prior to going to their assigned posts.

Patients treated at the Center have the benefit of the medical facilities of the Walter Reed General Hospital for any further evaluation and treatment of their audiologic problems. The staff includes board certified otolaryngologists with advanced training in all aspects of modern otologic surgery.

Grant No.:
BP 5028

Project Title: An Experimental Analysis of Aural Rehabilitation Using Programmed Instruction

Duration:
July 1968-Nov. 1972

Sponsoring Institution: Army Audiology and Speech Center, Clinical Research Service, Walter Reed General Hospital, Walter Reed Army Medical Center, Washington, D.C. 20012

Project Director: Edward B. Muth

Description: Provision of programmed aural-rehabilitation materials for the Army's acoustically handicapped, and to use these materials.

Grant No.:
FIC 501 0000 339 LC 2977

Project Title: The Effect of Vasodilation on Temporary Threshold Shift Due to Acoustic Stimulation

Duration:
1969-1972

Sponsoring Institution: Army Audiology and Speech Center, Clinical Research Service, Walter Reed General Hospital, Walter Reed Army Medical Center, Washington, D.C. 20012

Project Director: Gretchen B. Henry, M.D.

Description: Evaluation of the effect of peripheral vasodilation prior to mild acoustic stimulation on cochlear potentials and cochlear blood flow recorded from a guinea pig.

Selected Publications: Morimitsu, T., K. Matsuo, and F. Suga: *Behavior of the Cochlear Blood Flow.* Annals Otol. 74, 1965.

Glorig, A., A. Summerfield, and W.D. Ward: *Observations on Temporary Threshold Shift Resulting from Noise Exposure.* Annals Otol. 67, 1958.

Davis, H. and Associates: *Acoustic Trauma in the Guinea Pig.* J. Acoust. Soc. America 25, 1953.

Eldredge, D. H., R. C. Bilger, and H. Davis: *Factor Analysis of Cochlear Injuries and Changes in Electrophysiological Potential Following Acoustic Trauma in the Guinea Pig.* J. Acoust. Soc. America 33, 1961.

Grant No.:
FIC 502 K0000 351
0000 LC 2271

Project Title: Susceptibility to Noise Induced Hearing Loss – Middle and Inner Ear Factors

Duration:
1971-1972

Sponsoring Institution: Army Audiology and Speech Center, Clinical Research Service, Walter Reed General Hospital, Walter Reed Army Medical Center, Washington, D.C. 20012

Project Director: Kenneth S. Burke

Description: Determination of whether a pattern of susceptibility to noise exposure may be identified in the human ear through a study of dynamic and static factors in both the middle and inner ear.

Selected Publications: Kryter, K. D., et al: *Hazardous Exposure to Intermittent and Steady-State Noise.* J. Acoust. Soc. America, March 1966.

Ward, W. D.: *The Concept of Susceptibility to Hearing Loss.* J. Occ. Med., December 1965

Yarington, C. T., Jr.: *Military Noise-Induced Hearing Loss: Problems in Conservation Programs.* Laryngoscope, April 1968.

Burke, K. S., et al: *Middle Ear Impedance Measurements.* J. Speech & Hearing Research, June 1970.

Grant No.: (unassigned)

Project Title: Predicting Speech-Reading Performance from an Analysis of Auditory Confusion

Duration:
March 1972-

Sponsoring Institution: Army Audiology and Speech Center, Clinical Research Service, Walter Reed General Hospital, Walter Reed Army Medical Center, Washington, D.C. 20012

Project Director: Brian E. Walden, MSC

Description: Application of an analysis of the auditory confusion of hearing-impaired listeners to an attempt to predict the potential benefit of lip reading to the patient.

Selected Publications: Walden, B. E.: *Dimensions of Consonant Perception in Normal and Hearing Impaired Listeners.* Ph.D. Dissertation. Purdue University, 1970.

Miller, G. A., and P. E. Nicely: *An Analysis of Perceptual Confusions Among Some English Consonants.* J. Acoust. Soc. America 27, 1955.

O'Neil, J.: *Contributions of the Visual Components of Oral Symbols to Speech Comprehension.* J. Speech & Hearing Disorders 19, 1954.

Neely, K.: *Effects of Visual Factors on the Intelligibility of Speech.* J. Acoust. Soc. America 28, 1956.

Sumby, W. H., and F. Pollack: *Visual Contribution to Speech Intelligibility in Noise.* J. Acoust. Soc. America 26, 1954.

Grant No.:
841211 12075 200

Project Title: The Extent of Hearing Loss in the United States Army

Duration:
Sept. 1971-Dec. 1971

Sponsoring Institution: Army Audiology and Speech Center, Clinical Research Service, Walter Reed General Hospital, Walter Reed Army Medical Center, Washington, D.C. 20012

Project Director: Col. Harry W. McCurdy

Description: Survey of the incidence of noise-induced hearing loss among a cross section of troops from the United States Army.

TRAINING PROGRAMS CONCERNING HEARING DISORDERS (ARMY)

PROGRAM DIRECTOR AND INSTITUTION	TYPE OF TRAINING PROGRAM	NUMBER OF TRAINEES/YEAR
H. W. McCurdy, M.D. Colonel, MC Walter Reed General Hospital Walter Reed Army Medical Center Washington, D.C. 20012	Otolaryngology	3
S. R. LeMay, M.D. Lt. Colonel, MC Brooke General Hospital Fort Sam Houston, Texas 78234	Otolaryngology	2
E A. Krekorian, M.D. Colonel, MC Fitzsimons General Hospital Denver, Colorado 80240	Otolaryngology	2
L. L. Hayes, M.D. Lt. Colonel, MC Madigan General Hospital Fort Lewis, Washington 98433	Otolaryngology	1
P. W. Myers, M.D Major, MC Don W. Worthington, Ph.D. Captain, MSC Army Audiology and Speech Center Forest Glen Section Walter Reed General Hospital Washington, D.C. 20012	Audiology Orientation Program	20

MISCELLANEOUS GRANT ACTIVITIES

Grant-supported work relating to deafness but not amenable to existing grouping.

Grant Source: National Science Foundation

Grant No.: GS-31349

Project Title: Semantics and Grammar in American Sign Language

Duration: 1971-1973

Sponsoring Institution: Gallaudet College, Washington, D.C. 20002

Total Amount: $114,817

Project Director: William C. Stokoe, Jr.

Description: The main objective of the research is to describe as accurately and completely as possible, at the present state of the art, the semantic and the grammatical structures which underlie the expression of American Sign Language (ASL). Earlier work of the Project Director (*Sign Language Structure*, 1960); *A Dictionary of ASL*, 1965) has dealt with the nature and organization of the expressive elements, but the semantic component of the language remained unexplored. The linguistic theory to be used as a model is that of Chafe (*Meaning and the Structure of Language*, 1970). The Project Director and a Faculty Associate will use their own knowledge of ASL, interviews with informants, the insights of a deaf linguist-colleague, and a large corps of data now on film, and to be filmed, to do the following: (1) make an inventory of the semantic resources, (2) determine the semantic structures, and (3) discover the processes (e.g., linearization, idiomaticization), by which the semantic structures become the actually produced sequences of ASL. The outcome of the research will help to answer questions being asked by scientists in anthropology, linguistics, semiotics, sociology, and other fields dealing with communication.

While the project is basic linguistic research and not a training program, the five or six persons assisting the Project Director will emerge from it excellently qualified as language specialists for the deaf.

Grant Source: Public Health Service

Grant No.:
5 R01 NS 05464

Project Title: Perception of Complex Auditory Stimuli by the Deaf

Duration:
1964-1972

Sponsoring Institution: Gallaudet College, Washington, D.C. 20002

Total Amount:
$402,369

Project Director: James M. Pickett, Ph.D.

Description: This project investigates the abilities of the deaf, and of other persons with impaired hearing, to perceive various qualities of complex auditory stimuli. The method is to compare abnormal and normal audition using tests of discrimination and identification of specially designed sound stimuli having known acoustical characteristics. The comparisons are to be made so as to develop new psychoacoustic information on the perceptual effects of neuro-sensory pathologies of audition. Discrimination and identification measures will be carried out for known timbre differences among vowel sounds, simulated consonant sounds, and sound spectral patterns which vary in time, such as formant transitions. A detection theory will be developed to represent deficiencies in discrimination.

Grant Source: The Grant Foundation, Inc.

Grant No.:
None assigned

Project Title: Extension of Computer Facility for Research on Speech Communication for the Hearing Handicapped

Duration:
12/71-5/72

Sponsoring Institution: Gallaudet College, Washington, D.C.

Total Amount:
$30,000

Project Director: James M. Pickett, Ph.D.

Description: The funds from this grant were used to assist buildup of a computer facility for research on problems of speech communication in the Sensory Communication Research Laboratory. The purpose of the Laboratory is to perform research that will lead to improved speech communication for persons with impaired hearing. Normal speech communication was also studied to provide reference data where necessary.

Grant Source: George W. Nevil Trust Fund, Philadelphia, Pennsylvania

Grant No.:
George W. Nevil Estate,
4430-5

Project Title: Nevil Communication Enhancement Program

Duration:
1971-1972

Sponsoring Institution: Gallaudet College, Washington, D.C. 20002

Total Amount:
$56,000

Project Directors: Originally, the late Powrie V. Doctor, Ph.D., Acting Dean of the Graduate School and Chairman, Department of Government. Willard J. Madsen, Associate Professor of English, was later appointed to direct the program.

Description: The Pennsylvania School for the Deaf has sent almost all of its faculty, administrators, and counselors to Gallaudet College for an intensive course and program in sign language and simultaneous communication skills. Some 156 teachers and staff members from the school have participated in the Nevil program – a year-long project which takes its name from a trust fund set up to aid in the education and rehabilitation of handicapped groups in the Philadelphia area.

In general, the weekly program has included an intensive course in basic manual communication, observation of classes conducted in the simultaneous methods at all levels from pre-school through the graduate school, a daily seminar, a practicum conducted by Gallaudet students, and an informal evening lecture series dealing with problems of communication and education of the deaf. The Pennsylvania School wished to discontinue its orally-oriented approach to education in favor of the newer "Total Communication" approach.